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NEW WORLDS SCIENCE FICTION

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THE RAILWAYS ON CANNIS

by COLIN KAPP

"Colonel Ivan Nash to see you, Sir."

Colonel Belling frowned. "Ivan Nash? I thought he was on Cannis with the occupation force. Anyway, show him in."

"Too late!" said Nash from the doorway. "I'm already in. Can't wait on ceremony, you know. I've got a peace to run."

"Good to see you, Ivan! What brings you to Terra?"

"Briefly," said Nash, "it's the railways up on Cannis."

Belling waved his visitor into a chair and issued him a drink.

"I fear I'm a little out of touch," he said. "I didn't think railways were quite in your line."

"No?" Nash filled his pipe carefully. "How much do you know about Cannis anyway?"

"Not much. Gravity, atmosphere and climate roughly earth-normal. Population rated human equivalent on the Manneschen scale. Oh yes— and volcanoes!"

"Precisely," said Nash drily. "Let us not forget the volcanoes. Cannis-four is a young world with a very thin crust. Volcanic activity is widespread and generally severe. Fire-blowholes about a dozen metres in

diameter can force up anywhere at any time. They raise sharp-edged slag cases from ten to a hundred metres in height. That's why there are no roads on Cannis."

"Quite a place," commented Belling, refilling the glasses.

"Quite a place and quite a people." Nash studied the ceiling reflectively. "Tough as nails and as perverse and changeable as the hell-hole that spawned them. Considering there's not a two-hundred metre diameter of flat space anywhere on the whole damned planet it's highly remarkable that any form of civilisation ever managed to evolve, let alone one that managed to kick itself into space."

"I had wondered about that."

"Well you might. The Canians are an extremely clever race. They're craftsmen, hobbyists and gadgeteers of the highest calibre. They built up a highly effective mechanical culture by trial and error and empirical method. But they have no true science as such."

"So?"

Ivan Nash paused. "So we blasted the hell out of Cannis during the war and now they don't have sufficient continuity of technology to get back on their own feet. If you knock a cockeyed culture like that to pieces how, in the name of Thunder, do you get it together again?"

"I don't know," said Belling, quite honestly.

"And neither do I. They're a heck of a nice people when you get to know them. The fact that they picked on Sirates to colonize when we were already there was just bad luck. That's why our presence on Cannis is more of a rehabilitation job than an occupation proper. If we let them down we throw them back a thousand years."

Belling whistled. "As bad as that, eh?"

"Worse. With their present production and distributing capacity they'd have difficulty in maintaining more than twenty percent of their population at a minimum survival level without our help. And help all the way from Terra is a mighty expensive item. We have to stand them on their own feet fast."

"So you want reconstruction engineers?" asked Belling.

"No, I already have engineers. Unfortunately it doesn't work. Advanced technology is not very suited to patching up a string and hairpin culture. The gulf between our technology and their technique is too great. What I need are specialists with a peculiar kind of skill. That's

why I came to you."

"The entire engineering reserve is at your disposal," said Belling. "You name 'em, I've got 'em. What do you want?"

"My main concern is with the railways. With no roads or airstrips, the railways alone give cohesion and life to their scattered society. Without it they cannot survive."

"So you want railway engineers?"

"No," said Nash sadly, "they wouldn't be a molecule of use."

"How come?"

"Man!" said Nash in a voice of awe and wonder. "Did you ever see the railways up on Cannis? It's a shunter's nightmare, a plate-layer's conception of hell. From an engineer's point of view it's a complete and utter impossibility."

"Somebody must have constructed it originally."

"Yes, a myriad crazy, bug-brained innovators, each working on a separate part to an entirely different specification and for conflicting reasons. It's a completely lunatic system which breaks every known law of elementary railway technique."

"Then," said Belling wearily, "if you don't want engineers what do you want?"

"I want to borrow the U.E. squad," said Nash steadily.

Belling winced. "Are you serious?"

"Deadly."

"You realize what the U.E. squad could do to a situation like this?"

"I realize it's a dangerous thing to try, but desperate ills need desperate remedies. It's the last chance we have to save Cannis."

"If I were you," said Belling sadly, "I'd resign."

Lieutenant Fritz Van Noon of the U.E. squad faced his superior warily.

"I've got news for you," said Colonel Belling. "As you know I was against the formation of the U.E. squad right from the start. I may be wrong but I don't recant. The whole subject of Unorthodox Engineering has never sat very easily on my conscience. However, I think you've won your point."

"You mean that Operation Hyperon is going through?"

"Just that, but there is a proviso. You have to keep the squad in oper-

ational trim until Hyperon is ready by accepting assignments outside this reserve. Colonel Nash has already made a specific request for your services."

"I'm grateful," said Fritz warily, "but there's a distinct odour of an ulterior motive here somewhere."

Belling smiled wolfishly. "There is indeed. Tell me, Fritz, do you know anything about railways?"

"No, sir, not a blessed thing."

"Then you'd better get yourself a book or something. You've just been appointed controller of public railways on Cannis-four. U.E. goes with you."

"Cannis-four? Where in Jupiter is that?"

"It's the only habitable planet in the Cannis sector. It's the closest approximation to hell I've been able to locate."

"I thank you for the sentiment, sir."

"And I appreciate your tact, Fritz. You know, it's no easy task running a specialist engineering reserve. Always you get the one engineer in a thousand who should never have got out of kindergarten, let alone graduated. With a reserve strength like ours it's inevitable that we should have collected more than our fair quota of screwballs. The problem has always been to place them in positions where they aren't actively dangerous. Now I don't have to worry. Anybody who engages U.E. does so at their own risk."

"Which statement reveals a deplorable lack of insight," said Fritz Van Noon. "I devised U.E. to provide an outlet for those engineers whose imagination carried them beyond the ordinary."

"I know," said Belling drily. "I've seen some of your extraordinary engineering. I can only assume that taking you to Cannis to rehabilitate what was recently enemy territory is some ingenious form of war reparation. And Fritz—"

"Sir?"

"Take it easy on Ivan Nash. He's a friend of mine, and he doesn't suffer fools gladly. Try pulling some of those stunts you've pulled on me and you'll probably spend the rest of your career in a Canian jail—in irons."

"You can trust me, sir. After all, U.E. has a reputation to maintain."

"That's precisely what I was afraid of. Now get the hell out of here,

I'm going to have a ball!"

The landing at Hellsport Base did nothing to endear Fritz to the planet. The transfer ferry entered the guiding radio-cage at a tangent, failed to equalize, and bucked and ricocheted from beam to beam until the crew abandoned the automatics and dropped her to the ground under manual control. The ferry touched down with the motors out of synchronisation, spun crazily, and overheated the landing pit before it finally swayed to rest. That meant two hours of waiting whilst the water jets strove to cool the hull and bed-rock of the base.

Jacko Hine, his second in command, met him at the spaceport bar. Jacko and a small contingent of U.E. had been sent ahead to make a preliminary survey of the position. The summary of the reconnaissance was proclaimed by Jacko's crestfallen attitude and by the way his hair began to grey.

"How does it look?" asked Fritz.

Jacko looked at him seriously for a second or two. "Grim," he said. "If I'd tried to figure out an assignment which would prove U.E. to be a bunch of useless, incompetent layouts I couldn't have made a better choice."

"I thought that was it!" said Fritz. "Friend Belling was too sugar-sweet on handing out this offering. Anyway this gives us a chance to prove him wrong once and for all."

"Does it? Open your pretty shell-like ear and I'll pour in a few home truths about Cannis railways. Item: no part of the system has been in operation for at least five years. Those parts of the installation which survived the terran 'verter bombs during the war have either fallen down of their own accord or else suffered from volcanoes."

Fritz choked on his drink and had to be patted on the back.

"Volcanoes?" he queried finally.

"Sure. Small ones. They keep on coming all the time. Even at the hey-day of the Cannis railway approximately one fifth of the total rail length was always out of commission due to volcanic activity. After five years without maintenance or repair the damage and confusion is simply catastrophic. Nash's engineers rebuilt five kilometres of new track and suspension last year and two volcanoes ruined it within a week."

"Go on," said Fritz grimly.

"Item," said Jacko. "All the new steel has to come from Terra. Delivery delay is a little under two years and a ship can't deliver more than a hundred tons at a time. The Canians have a good malleable iron but it won't harden. It's all right for rails and short supports but the tensile strength is too low to allow its use for major engineering projects."

"Enough!" said Fritz. "The rest of the misery I will discover for myself. All this weeping is playing havoc with the flavour of the beer. I'm seeing Colonel Nash this afternoon, and after that I want to see some railway."

"In that case," said Jacko, "you'll need another drink."

Colonel Nash was waiting for him at Cannis H.Q. There was a certain air of reserve between the two officers which Fritz found vaguely familiar.

"I take it you've read the dossier on Cannis," said Nash. "How does it strike you as a job?"

Fritz shrugged. "That depends on the type of co-operation we get."

"You get whatever you want. This is a last-ditch stand. The rehabilitation is costing us infinitely more than did the war. We can't afford to play conquering heroes."

"What I want," said Fritz, "is simple. I just want that we should be left alone—very much alone."

"How do you mean? Discipline, administration, or what?"

"Everything. Just set us down at a rail point about a hundred kilometres out and then forget us."

"This is damned irregular," said Nash. "After all, you are an army unit. What about supplies, for instance?"

"We'll find our own."

"And steel—you can't build a railway without steel."

"Lack of essentials never yet troubled an unorthodox engineer."

"But this is ridiculous!" said Nash. "I didn't fetch you out from Terra just so you could go play cards in the wilderness."

"Look," said Fritz quietly, "you want a railway. You've proven that orthodox methods can't provide it. Now do I get a crack at it the unorthodox way or do you return to Terra and admit the job has you beaten?"

"Get out!" said Nash angrily. "Get out of my sight as quickly as possible. I'll leave you alone, but I promise you one thing . . . the next

time you enter Hellsport it had better be on a train, else I'll nail you for insubordination and bust you so low you'll have to say 'Sir' to a private."

"Thank you!" said Fritz Van Noon. "That's all I wanted to know."

They came across the structure silhouetted against the orange-yellow sky. It reminded Fritz of nothing so much as a rotting seaside pier propped awkwardly on random legs clear of the broken terrain below. Jacko had a rope ladder tied to the structure, since the original sling and hoist access had rotted beyond repair. The two climbed gingerly to the platform overhead, brushing the rusting piles and girders, and being showered with dirt from the gaps in the dark decking.

Above the decks the desolation grew. It was a crumbling, grotesque parody of a structure whose impotence in style and form was rendered more alien and yet artistic by the vagaries of slow corrosion. It was like a surrealistic film-set for a comedy of horrors which nobody dared to make. And on the far side, characteristically askew, was a sign board in Canian characters, and after, scrawled in chalk in terran hand, the legend: 'Hellsport Terminus. The end of the line.'

"It reminds me," said Jacko, "of a card house set on a sea of rusty spaghetti."

Fritz frowned and mooched dismally through the festoons of rusty iron and threadbare cable. "What hit it?" he asked at last.

"Nothing." Jacko guided him away from a bed-plate which had rusted to an extent where an incautious foot might easily penetrate into the depths below. He pointed to a slag cone, now cold, which had burst through the tracks at mid-point across the terminus, ruining two tracks completely and half filling the remainder of the terminus with light volcanic ash. "Apart from the inquisitive volcano everything is just as it was when the last trains went north in the war. Believe me, they'd be using this installation now—only the trains never came back."

"Can't say I blame the trains," said Fritz moodily. "You mean to tell me this rotting junk heap is still in functional order?"

"By Canian standards, yes."

"Tell me," said Fritz testily, "did they have remarkably small trains or is this multiple-rail stuff some sort of gimmick?"

"I asked about that. Seems that each branch line had its own gauge

and some had several according to who built them. At a terminus like this you have to accommodate anything which comes, so you run one track inside another nice and tidily. One snag through—you should see what it does to the points."

Fritz shuddered visibly despite the warm afternoon air. "I'd better see the worst, I suppose."

They walked out from the terminus to the huge switching grid which served to integrate the various branch lines entering the terminus. There was nearly a kilometre of patch-work mechanical desolation, overhued with rust and complex beyond belief. Gentries and galleries were solid with cranks and levers, bars and linkages, rods, and handwound helical springs. Cloth-covered cables and solenoids had dropped their sickly bitumen under the coercion of many summer's suns, and now lay bleached white and ugly across the rotting spans like the bones of some alien skeleton.

Fritz viewed the scene with increasing dismay. Jacko leaned heavily on a stanchion and eyed his discomfort with a perverse humour.

"We're doing fine," said Fritz. "We've got ourselves a station complete with a volcano, a marshalling yard which shouldn't exist outside of a bad dream, six branch lines which don't go anywhere, and no trains to try out anyway. Add the fact that we can't get any steel and the probability that anything we do build will be ruined by more volcanoes within six months, and I surmise we are well and truly up a gum tree. I don't know whether to blow the whole lot up and start again or to leave it as an object lesson on how not to build a railway."

"Now who's being conventional?" chided Jacko. "I should have thought that this morass of mechanical ingenuity would have gladdened your heart no end."

"No," said Fritz, "and I'll tell you why. You see, its builders paid no attention to basics. There is a certain idiot futility about building something destined for sure destruction. Even a bodger must work to the principle of the greatest return for the very minimum of effort. That is why the Cannis railway is not only unsound but also needlessly complicated.

"Take this switching grid, for instance. It's not only vulnerable but it's largely unnecessary. It's designed to be completely automatic, self-routing, self-isolating, self-signalling and probably foolproof. Even Ter-

ran cyber-controlled railways have nothing to match this except in theory. But the faults result from limited vision. We could have done the whole thing with about a tenth of the parts and twice the reliability."

"We may have to," said Jacko. He pointed outwards across the tracks to where thick motes of dust and cinder were dancing in the sun. "Unless I miss my guess there's another volcano coming through down there."

"I want," said Fritz Van Noon, "to start about a hundred kilometres out on something nice and simple. We should have both engines and the necessary technique by the time we get back to Hellsport. What type of engines did they use, anyway?"

Jacko drew a deep breath. "You're not going to believe this," he said warily, "but the engines were even stranger than the tracks. The Juara engine was a steamer run on dried resins. Two locomotives from Manin were sort of battery-electric jobs. One from Nath came home on some kind of super gyroscope, and the Callin locomotive was an I.C. engine run on alcohol made by fermenting bean husks. Apart from that the rest were pretty unconventional."

"You don't say!" said Fritz drily. "The Canians seem to have set out to beat us at our own game. Talk about unorthodox engineering! We're a set of ruddy amateurs compared to them."

"I doubt it," said Jacko. "In my youth I thought I was the world's worst crackpot screwball. Then I met up with you and found that, in comparison, I was merely a sane, sensible, hardworking engineer. I never got over the disappointment of that hour of realization. I have a feeling the Canians will find themselves in a similar predicament. Under the heavy hand of Fritz Van Noon the Cannis railway will never be the same again."

"Thank you for that sly vote of confidence," said Fritz. "Now this is what I propose to do. I want you to take a 'copter to the Callin area, find the locomotive and bring it back to there—" He stabbed his finger on the map. "There's a two kilometre break in the track there where a 'verter bomb caught up with it. I'm taking the rest of U.E. to that point to try and repair the break. If we can, it will give us a workable area down as far as Juara. I want to complete that run before the Callin bean harvest is ripe. That gives us about two months."

"Two kilometres of new track in two months? You're off your rocker!"

"Naturally," said Fritz. "Else I wouldn't be running U.E."

The township of Juara lay on a crest of sullen rock. The shelf of granite had reduced the volcanic activity of the region to a tolerable level, and made habitation possible at the expense of the fertility of the soil. The railhead was untouched, but as the line swung again north-west and then north of the plateau it entered a low basin where the slag-cases, dunned with vegetation, stood up thick and tall like armless trees in some fantastic petrified forest.

This was a bad point for the rail. From the air it was obvious by the tortuous twisting of the route that the line had been diverted from disaster and rebuilt at least a dozen times. Occasional sections were completely isolated from the remains of the existing track and lay as forlorn crescents of rotting railway awaiting trains that could never come.

Six kilometres out from Juara was the break. A 'verter bomb dropped casually in the vicinity by a terran stratocraft had left its usual trademark. The railway had literally been shaken to pieces. For nearly two kilometres the remnants of twisted girderwork and trestles sprawled on the broken ground, tied together with the soft iron of the rails. North again by over forty kilometres lay Callin and the fertile mountains of Cansoon.

In the centre of the break Fritz ordered down the 'coptors, and the aero-sleds rendezvoused to drop the heavier equipment. The fragile, alloy Knudsen huts were hastily assembled and staggered, two by two, between the tall volcano spires. Prefabricated workshops were completed in record time as soon as the dino-dozer had cleared a sufficient site. The packaged forge and the rolling mill were rolled on air cushions to key points on the site.

Working feverishly and without obvious direction, the engineers of U.E. carved themselves a base on the alien territory and settled themselves in. By nightfall a new functional township had arisen beneath the dark towers of Cannis.

Fritz was well pleased with the achievement. Its success was marked by a subtlety which would have passed all but the keenest of observers. For U.E. was not a team as such; it was a collection of individuals. Nobody planned or directed, except in the very broadest way, but each engineer was trained to analyse the salient points of an operation and to

guide his own activities to achieve the maximum effect. It was the myth of anarchy on a practical, productive scale—and it worked! The patient genius of Fritz Van Noon had wrought a philosophic miracle.

It was on the first day that Malu arrived. He strolled into the base at the crack of dawn, a thin brown Canian with the dark liquid eyes and the quick, birdlike movements that characterised his race. All Canians are inquisitive to a fault, and a casual inspection of any work in progress is part of the scheme of things. After poking and probing into every conceivable crevice he went from hut to hut harrying the occupants with atrocious pidgin Galactea. He found nobody who could understand him until he came across Harris, who not only spoke Galactea but also fluent Canian. Harris realised the worth of the contact and hurried him off to meet Fritz.

"This is Malu," said Harris. "He's a local engineer. He wants to know what he can do to help with the railways."

Fritz smiled acknowledgement. "Can he find me any local labour?"

Harris translated, and a heated discussion followed. Finally he turned back to Fritz. "He says that he can get plenty of labour but that the Canians won't work in gangs under direction. They're strictly free-lance or they don't work at all."

"I thought this would happen," said Fritz. "Point out that it's their harvest we're trying to get to Juara. It's no skin off our nose if it doesn't go through. Also they obviously don't have the skill or the ability to do the job themselves else they'd have done it already."

"I already said that, but it's no dice. They're an independent lot of cusses. They'd sooner starve than suffer direction."

"Come to think of it," said Fritz, "come to think of it, so would we. Hell, I'll take a chance! Let them all come. It may never look like a railway but I guarantee it'll be a lot of fun trying."

By this time Malu had wandered off to examine some new aspect of the Knudsen huts. He was obviously worried by the alloy hulka, and came back for a long and excited argument with Harris.

"He's worried about the Knudsens," said Harris. "Says we mustn't build directly on the ground."

"Why ever not? There's no flooding hereabouts and the site is reasonably level."

"That's not the point. Malu says the lichen is temperature sensitive. It turns brown where a hot-spot is developing. It gives you about a ten hour indication of when to move house. If you build on the ground you can't see the lichen underneath."

Fritz relaxed. "We already thought of that. Between each pair of huts we have a thermocouple buried. The alarms are automatic and don't need watching. Besides which, they're not affected by the sun and rain as is the lichen. Anyway you can't put a Knudsen hut on stilts—it'd fall to bits."

Harris translated to Malu, who shrugged resignedly and walked away wagging his head from side to side.

"He says it won't work," said Harris. "He coined a phrase: 'people who live in magnesium huts shouldn't dare volcanoes!'"

"Jupiter! That was all I needed!" said Fritz Van Noon.

Curiously enough the combination of Canian and U.E. personnel worked rather well. The natives knew their own limitations and did not attempt an operation or to handle an unfamiliar tool until they were sure of their competence. The U.E. squad became the lead team, breaking new ground, and the Canians seconded in careful emulation of their instructors.

By the end of the second day a huge stretch of track had been cleared, the rails returned to the rolling mill, and trestles and undamaged span girders stacked ready for re-assembly. Ingots of malleable iron were manhandled down the line from Juara, and the forge and rolling mill worked continuous shifts to shape the soft metal which had to serve instead of steel.

The U.E. metallurgist was going quietly crazy trying to figure out why the Canian iron refused to harden. He finally decided it was due to the perverse allotropic form of the native carbon, and broke down an electrolytic refining cell of terran origin to gain a less temperamental sample of the element. Two pounds of this steel prepared in the laboratory exhibited a cold-short brittleness of such degree that it was rendered into iron filings by a few taps of a hammer. Increasing the silicon content and using Canian carbon he obtained a steel of the same tensile strength as lead. At this point he broke down and wept bitterly, then went out and joined in the construction work.

On the fourth night Fritz was awakened by the babble of voices outside his door. He dragged himself from his bunk, opened the door and stepped out. He immediately fell over Jacko who was prostrate on his stomach in front of the threshold probing the ground with the aid of a spot lamp. Malu and two fellow Canians were watching the proceedings from a discrete distance.

"Hell!" said Fritz. "Is this your idea of a joke?"

Jacko rubbed his posterior with an aggrieved air. "Hell," he said, "is an apt description of our destination if we don't leave this spot pronto. Your hut is nicely located on a hot-spot."

"What?" Fritz felt a sudden tremor of the ground beneath his feet and caught a wisp of the sulphurous fumes issuing from widening fissures in the ground. They had scarcely covered twenty metres before the hut exploded in a riot of brilliant fire. At a safe distance they turned and watched the point where a new volcano burned live at the very spot where Fritz had been sleeping not four minutes earlier.

"One up to Cannis!" said Fritz grimly. "It's getting to be a personal fight with no holds barred. Well, if that's the way Cannis wants it then I can fight dirty too."

Jacko surveyed the furious gout of fire before him. "I thought you were fixing a thermocouple alarm?"

"We did," said Fritz. "Platinum, platinum-rhodium couples at three metres depth. That must be where we fell down. Hot sulphur and silicates are poison to a platinum-alloy thermocouple. It must have gone open-circuit before it could operate the alarm. It was a mischance in a million but one we can't afford to risk again. The rest of the Knudsens will have to be jacked up somehow."

"Can we afford the time?" asked Jacko. "We have to get the harvest through to Juara. Can't we simply use another type of thermocouple?"

"No, we tried that. The soil is too corrosive, and a shielded couple isn't sufficiently sensitive. Either we raise the huts or we risk frying in our beds. I don't fancy waking in the morning and finding myself done brown on both sides. And I'm still going through to Juara on time even if it's over your dead body."

"I was afraid of that. By the way, I brought you back an engine. As a prime-mover it would make a very good potting-shed, but the fuel is simply superb."

"I know," said Fritz. "I can smell it on your breath."

Much of the track itself was recoverable since the low speeds and traffic density of the line would make no great demands on the quality of the rail. A great deal of the girderwork from the spans was likewise capable of reclamation. Only the trestles had suffered badly. Four out of five were a total write-off and, due to the great allowances needed by reason of the poor quality of the metal, rebuilding ate deeply into the available stocks of iron. As the work progressed it became painfully obvious that no more than half of the break could be completed because of the lack of trestles.

Fritz refused to be disheartened, and laid his advance plans with a quiet precision and a secrecy which involved the confidence only of Harris and Malu, who were given special missions to perform. Everyone else grew despondent, and even Jacko's customary pessimism seemed justified when the hot-spot appeared.

"Where is it?" asked Fritz.

"Right," said Jacko, "where it will do the most damage. Under our new track and right in the centre of a span. Three days and the whole lot will be down again. How the heck can you build a railway under these terms?"

"You can't," said Fritz. "That's why we're going to alter the terms. Take my advice, Jacko, never try to buck the system. If it's big enough to break you, try helping it on its way."

"Sophistry," said Jacko. "You can't stop a volcano."

"Can't I? Cannis and I have a lot in common. We both think the same way—mean and underhand. It's a policy of kicking the enemy while he's down. That way you get the greatest results for the least effort. This is a personal fight and no she-dog of a planet is going to put one over on Fritz Van Noon."

Jacko shook his head sadly. "Let's face it, Fritz. We're licked. We can't go any further without terran steel and we can't hold on to what we have done. There's no disgrace in folding up before a physical impossibility."

"I've told you before," said Fritz sternly, "there's no such thing as a physical impossibility. A limitation is a state of mind not a question of fact. An aeroplane was a physical impossibility until men's minds

learned how to tame the concept."

"Is lack of steel and a surplus of volcanoes also a state of mind?"

"Certainly—if you regard them as limitations."

"Very well," said Jacko, "come and prove your point."

By the time they arrived at the span the hot-spot was beginning to break. Even as they watched, the ground belched and broke as the angry pressures blew the topsoil apart. Then came a heavier explosion, the ground flew back and a column of fire spurted irregularly through a spray of liquid, incandescent magma, which congealed around the blowhole to form the foundations of the cone. Not fifteen metres above, the span appeared to dance in the stream of heated gasses, and was blackened and scorched by the leaping blasts.

Ensign Harris came over at a run, clasping a mortar projector to his chest, and was followed by Malu and two engineers carrying a rack of mortar bombs. They set up the projector at a reasonable distance and proceeded to prime the bombs.

"Are you crazy?" asked Jacko.

"Yes," said Fritz. "That's my forte. I want to see what happens if we put a mortar bomb smack inside that crater. You're the weapons expert. Can you do that without damage to the trestles?"

Jacko estimated the position silently. "The bomb I can manage, but the trestles will be in the care of their own peculiar deities."

The result was even more spectacular than anticipated. The bomb rose in a brief arc and fell with careful precision into the mouth of the flaming cone. A split instant of hesitation and then hell itself was unleashed. The pyramid of toffee magma split wide with a murderous roar; gouts of flame and incandescent lava boiled and foamed high into the air and collapsed into a storm of white-hot cinders and writhing jets of burning gas. At the base, where the cone had stood, the blowhole angrily vomited a widening pool of boiling lava like some grotesque festering sore.

"Another?" asked Jacko.

Fritz nodded. "We might as well be fried sheep as roast lambs."

The second bomb, too, was carefully placed. This time the lava rose like a living wall and plunged outward, splashing and streaming its magnificent debris up to thirty metres from the seething well. A sheet

of roaring flame rose up with frenzied fingers and enveloped the protesting members of the rail-span overhead.

The blast of heat and awesome fury sent the watchers scurrying for shelter, with Harris fearing for the safety of his remaining bombs. Only Fritz stayed put, his clothes smouldering, shielding his eyes with his hands and overcome with the enormity of the havoc he had wrought. Then the flaming torches died and the white-hot spume grew less. The lava pool became a darkening puddle of red toffee, shot with occasional bursts of recalescent heat and overhung with the will-o'-the wisp of burning sulphur.

"One up to me," said Fritz Van Noon.

By morning the remains of the volcano held no visible sign of life. The lava had spread into a vast rippled puddle of rock, still hot but solid enough to bear a man's weight. Already the lichen was beginning its assault on the cooler regions, eager to begin the symbiosis with the grass to follow.

Jacko had the calculations finished by the time that Fritz was ready to inspect.

"Fritz, you're a ruddy genius! There's enough material in this puddle to make two average-size volcanoes in this district. That mean's we've cleared it out completely. With a bit of luck they won't have another volcano here for the next sixty years. Unless a volcano happens right under a trestle leg we can treat it the same as this one. That simplifies life no end."

"Precisely," said Fritz. "But it's the trestle legs I'm worried about. Pile-driving those base supports makes the trestles rather vulnerable. What happens to your railway if your trestles suffer a high mortality rate?"

"I think we quit," said Jacko candidly.

"Not on your life," said Fritz. "We've got enemies. If U.E. goes home in defeat they'll try and break us for sure. Between us we run the largest collection of screwballs and technical malcontents in the whole terran service. Not one of them would be happy about returning to honest engineering while they can stay with us and play forsaken children's games under the minimum of effectual supervision. We just can't let them down. Besides which, there's more than the Cannis railway at stake!"

"I guess you're right," said Jacko. "But look at the problem. We can't put a straight track run on the ground because of the cones in the way. Even if we could it would take years to level up the site. Therefore we build on trestles and spans over the rocks and smaller cones. That makes sense even if it looks grotesque. But you can't stop a volcano which comes up under a trestle. Even the Canians never found a way round that."

"I can," said Fritz slowly. "But it's a dangerous thing to try. You see, there is one place on Cannis where a volcano never rises."

"I doubt it."

"But it's perfectly true. A weathered volcano may break and fall, but a new volcano never rises where an old one still stands. Pressure difference, I suppose."

He broke off suddenly with a puzzled frown.

"I thought I heard a 'coptor. Were we expecting any visitors?"

Jacko found a pair of field glasses and studied the 'coptor now visible on the horizon.

"Trouble!" he said. "Looks like the administration has found out where we are. That's a deputation from Hellsport unless I'm very much mistaken."

"Heck!" said Fritz. "Can't you head them off. I've got work to do. I bet it's that lousy planning group come to foul things up."

There were two terran civilians in the 'coptor. The taller of the two was obviously the spokesman, whilst his companion appeared to be some kind of technical consultant. On the way down from the landing raft they made a rather pointed inspection of the piles of girder and angle which littered the camp, and the short man took it upon himself to explain to his companion certain niceties of railway construction which Fritz appeared to have overlooked. By the time they reached the office they were clearly in the mood for business.

"I'm Eldrick, Planning and Co-ordination," said the tall civilian. "I think you would be Mr. Noon."

"Lieutenant Van Noon," corrected Fritz wearily. "I told you over the radio-phone not to waste your time on a trip out here."

Eldrick smiled tolerantly. "I think you misunderstood our purpose. We are the group which co-ordinates the efforts of all units on Cannis

to ensure that the maximum effort is concentrated in the right direction. We are here to help you."

"When U.E. needs help," said Fritz, "it helps itself. That's the prime function of U.E. We're independent, unco-ordinated, unorthodox, and generally fireproof—and what's more I have a certificate to prove it."

Eldrick was unmoved. "I still think you're making a mistake."

Fritz threw up his hands in a passable imitation of a man going berserk.

"The whole Cannis episode is a mistake. Even this misbegotten planet is some blatant cosmological error. If you think you can create order out of chaos with a slip-stick and a schedule of spare parts then you have no idea of the complexities involved."

"Have you?" asked Eldrick pointedly. "What about steel! You can't build a railway without steel. There are priorities to be arranged, specifications to be agreed, orders to be placed on Terra. Organization is essential to the well-being of any major endeavour."

"Organization," said Fritz, "is the last refuge of a tired mind. It's a bumbling, mechanical substitute for initiative. I can't wait twenty months for terran steel even if it is cut to size and neatly drilled to specification. If I haven't got steel then I'll use something else, never ask me what."

"I regard that as a very foolish and unnecessary attitude."

"That foolish attitude of creation out of necessity," said Fritz heatedly, "is the power and the reason that placed Mankind above the animals. Without it we'd still be scratching fleas off each other's backs. Now I must trouble you to leave."

"Very well," said Eldrick, "but if necessity is the mother of invention then you are in for a highly creative time. I've had a look at your constructions here, and if you think you can get a line through to Hellsport inside ten years you're either a genius or a fool."

"Was that wise," asked Jacko, watching the 'coptor lift-off for Hellsport. "I mean, throwing him out like that."

"No," said Fritz. "But, by Heaven, it felt good! These planners make my blood boil. Civilization runs at a quarter pace because of the blind dictum that everything must be organized according to the book."

"I suppose it has its virtues, though." Jacko was thoughtful. "After

all, look at the Canians. They can't muster a sufficiently collective effort to repair their own railways."

"And for why? Because they're running on the wrong philosophy. They can't do it because they're trying to reinstate the railways as they used to be. That's not the right attitude. There is no logic which says a problem has to be solved in the same way as it was done previously. The Cannis railway was a product of its own time—and times change. If you haven't the means to do what the other fellow did, then forget it and try something else."

"That's what I like about you," said Jacko. "You consistently move in the opposite direction to everyone else. I seem to remember you were about to show us how to build a volcano-proof trestle without actually using any steel."

Fritz smiled mischievously. "Suppose we forget about trestles. Can you salvage enough scrap to manage the spans and the rails?"

"Sure. That I can find, but if it's not a rude question how do you figure to hold them up? Will power?"

"No, volcanoes, dead ones. Lop off the tops and what have you got? Natural pillars of rock which will last a lifetime. Strap on a yoke, sling the spans between them and you have your railway."

"Crazy like a fox!" said Jacko. "It would work, of course—over a very short section, but I suppose that tired little brain of yours didn't also figure out how to manoeuvre a string of volcanoes into a straight line roughly approximating the way we want to go? Or do we build a crazy zig-zag track and use triangular trains?"

"No," said Fritz, "although the idea did occur to me. Also a proverb about Mohammed and the mountain."

"Now I know you're nuts," said Jacko. "If you haven't got volcanoes then you haven't got any, and there's nothing you can do about it."

"Is that so? Then I think you have something yet to learn. This may not be one of the most brilliant moments of my career but it may well prove to be the most spectacular."

At the end of the line, where the next trestle ought to have been, Harrison, and Fanning, the U.E. geologist, had the mobile drilling rig assembled. Fanning was taking core samples from the drill and shaking his head sadly.

"I don't like this, Fritz. We've penetrated to forty metres and the stuff is coming up hotter than hell. I should hate the drill to break into a high pressure region."

"How near are we to a molten layer?"

"Can't tell exactly, but the sonic depth-probe puts it at about seventy metres, plus or minus ten."

"Near enough," said Fritz. "If the stuff the drill is picking up is fusible I think we can stop right here."

Fanning mopped his brow and began to withdraw the drill. When it was out they collapsed the drilling rig, and the dino-dozer hauled it from the site.

Then Harris returned dragging several metal cylinders with obvious caution. Fritz waved everyone away from the drilling, adjusted something on one of the cylinders and heaved it end-first down the well. Nothing happened except that after about a minute thick yellow smoke began to issue from the hole. Fritz cursed and, approaching warily, dropped another cylinder after the first.

He scarcely got away in time. There was a crack like the voice of thunder, and a ball of violent, sparking incandescence screamed into the sky. Then flames jetted up, a scorching burst of fire leaping from the soil like some fantastic blow-torch. Molten magma, entrained in the superheated gasses, was hurled high in the air and descended as a scatter of singeing hail driven on the light cross-winds.

The onlookers fled in confusion far from the terrible well. By the time that Fritz reached shelter his uniform was smouldering in a dozen places and his face and hands were red from exposure to the heat and covered with superficial burns from the searing fall-out. Jacko had fared little better, having waited to make sure that Fritz was able to escape. They sat down on a broken slag-case, dabbing balm from a first-aid pack on their burns and watching the hectic blast as it roared with unimagined ferocity.

Slowly the cone began to form as lava congealed around the flaming throat, and the fiery torch rode up with slow magnificence as the cone became a candle and then a tower with a bright and angry beacon at the top.

"Voila!" said Fritz. "I give you a volcano."

"Hell. I'll give you volcanoes!" said Jacko, dabbing at his burns.

"Next time you try this Guy Fawkes stunt you're strictly on your own. What the heck did you drop down that hole?"

Fritz smiled. "A Kellung super-thermit bomb—and a cylinder of oxygen for luck. The intense heat generated by the bomb just above a bed of active igneous magma was more than sufficient to release the volcano. This time the process was channelled by the bore-hole, so we got a cone instead of a puddle."

"Per ardua ad asbestos!" said Jocko ruefully. "Are you seriously suggesting we do this all the way to Hellsport?"

"Only where we have to," said Fritz. "And even that will take more Kellung bombs than we can come-by honestly. Fortunately there's a way round that. Up on the Juara shelf is the Command weapon stores. They've more Kellung bombs there than we're ever likely to need."

"But will they let us have them?"

"No," said Fritz, "but that's never stopped Harris before."

Three days later the new volcano was extinct. A crazy scaffold was set up round the cone and the top neatly truncated with power chisels and pneumatic drills. As a structure it stood supremely suited for its job. This siliceous rock had set like concrete, and had it been cast deliberately by hand it could not have stood more straight or firm. The yoke was placed around the cone top and secured by hooks into the narrow crater. Prefabricated spans were trimmed to length and joined up to the existing structure. The result was the finest trestle that Cannis had ever possessed.

For U.E. it was an hour of jubilation. The forgotten gimmicks and the half-formed innovations suddenly leaped to new promise now it was certain the line was going through. At the end of a three week burst of energy the last rail of Juara was bolted into place. The locomotive returned to Callin with improvised rolling-stock and two days later chugged triumphantly through to Juara with the first load of the finest bean harvest for years.

Then it blew itself to bits.

"And something else," said Jacko. "They've just arrested Harris at the Command weapons store. So we won't be using Kellungs any more."

It was summer in Hellsport. Flies and dust thickened the air, whilst

the humid heat was relentless and intolerable. Even in the air-conditioned sanctuary of the Command H.Q. the dust crept through the filters and the humidity defied the monitors to hold the moisture content and the pressure down.

When the shouting began Colonel Ivan Nash grew irate with this newest source of irritation. He called a native courier to find the meaning of the outrage.

"They say, *Lazib*," said the native, with sly humour, "that a train comes in from Juara bearing the greatest man on Cannis."

"Nonsense!" said Nash irritably. "There are no trains left on the Juara-Callin line."

"That may be true, *Lazib*," said the Canian, with his tongue in his cheek, "but something is coming down the line. Look, you can see it for yourself."

Nash released the clamps and flung open the window, wincing at the blast of dust and heat which invaded the room. He found his field glasses and scanned the railway, which seemed to be dancing in the slow heat-haze. Something was coming down the Juara line, but the distance and the dust conspired to make identification impossible. Only when it grew nearer were the details of the vehicle displayed.

Nash choked and closed the window with a clang. The 'train' bore a curious resemblance to a service trooping-helicopter, minus rotors, and slung on a low truck, the wheels of which were broad grooved rollers. Various items of machinery were slung about the outside of the strange assembly, and in front walked a Canian with quick, birdlike movements, hopping from sleeper to sleeper and carrying a big red flag.

The train entered the terminus, reversed to another rail, then shuttled back and forwards just to show the proficiency of its roller wheels in manoeuvring on any gauge of line. The Canians went wild with enthusiasm, and shouted and cheered until Nash thought his head was going to split. He was still starring from the window when Fritz Van Noon came into the room.

Colonel Nash considered him silently. "All right, Fritz, you win—so far. I never thought you'd make it. Too bad you had to step out of line to do it."

"You didn't exactly help," said Fritz. "I thought we were finished when you had Ensign Harris arrested for stealing Kellung bombs. For-

tunately Malu, our tame Canian genius, cooked us up a substitute using Canian rocket fuel."

"I know," said Nash. "I had my spies up there. A very worthy effort. Too bad I have to throw the book at you. Unorthodox engineering I could learn to stand, but brigandry is a very different matter."

"Is it?" asked Fritz. "I have a warrant here authorising the release of Ensign Harris. It's neatly signed, sealed and counter-signed by Ter-ran GenCom."

"No dice!" said Nash. "I mean to court-martial Harris good and proper. Even GenCom can't dictate to me on the internal administration of my own sector. With any luck Harris will still be in jail when the sun goes cold. And as soon as I can get evidence of complicity you'll go up beside him. Weapon stealing is a capital offence. Besides which—" he said accusingly, "—you haven't had time to get GenCom confirmation on a release warrant."

"No need," said Fritz complacently. "Release warrants for Ensign Harris are part of our standard equipment. We always stock up before starting on a mission."

Nash was shocked. "You mean to say that this man's conduct is officially condoned?"

"Condoned?" Fritz chuckled. "As far as I am aware the only crime Harris committed was to get caught. For that I will personally reprimand him."

"But this is preposterous!" said Nash. "The man's a criminal thief."

"Precisely. That's his speciality. It took us a long time to find a crook of his calibre. He's the man who broke the First National Bullion Bank and got away with a quarter of a million pounds."

"This gets worse and worse," said Nash, his voice rising with disbelief. "Do you mean to say you employ a known criminal because of his prowess at breaking and entering? What sort of trade classification do you call that?"

"Quartermaster," said Fritz, with obvious enjoyment. "We want equipment and supplies, he has to beg, borrow or steal to provide them. It's a point of honour that he never comes by anything through the proper channels."

"But in the name of Mercy, why?" Nash sensed he was losing ground.

"It's part of the fundamental philosophy behind U.E."

Nash chewed his moustache nervously. "I've been warned about getting into an argument with you."

He returned to the desk and poured himself a drink. On second thoughts he offered it to Fritz and poured himself another.

"I don't doubt you can explain," he said heavily. "I don't doubt your ability to talk your way out of anything. I'm just warning you it'd better be good. If I'm not convinced I'll have every man-jack of yours in irons before the morning."

"I think not," said Fritz. "I'm afraid you've been the victim of a slight deception. That crazy gang of bodgers of mine is not quite what it seems. This may be unethical, but if you attempted to take any action against us you'd be out of the army so fast you wouldn't have time to change your hat."

"I warn you . . ." said Nash grimly.

"Hear me out first," said Fritz. "Have you heard of Operation Hyperon?"

Nash nodded. "The deep-space penetration project. Two million light years and no possibility of return."

"Precisely. Well, U.E. is the lead team that's going."

"I don't think I understand. Is this some sort of joke?"

"No, sir, very far from it. You see, in a deep-space probe you can't afford to carry anything but men and the very minimum of equipment which will ensure survival. There are no supply ships, no machine shops, and no reference libraries at two million light years from Terra.

"So what type of men do you send? Physicists who are lost without a laboratory? Engineers who can't obtain any steel? No, you send the men who can make a plough out of a tree-trunk, a stone and a length of creeper. You send the men who have made a lifetime's habit of turning anything they could lay their hands on to their own peculiar advantage."

"And that's the philosophical concept behind U.E.?"

"Just that," said Fritz. "Ours is an age of highly complex technology. Specialization and standardization are the key-words of our civilization. But as the starships spread us further across the galaxies the strings which tie us to the centres of order and knowledge tend to become a bit tenuous. You can't take your technology with you. Things come unknit."

"A masterpiece of understatement," said Nash. "Even on Cannis we created a technological monster. We tried to apply terran know-how without having the facilities to back us. It didn't work."

"Just so," said Fritz, "hence U.E. This is an experimental team chosen to a pattern decided after years of psycho-research. It's a completely flexible approach with no precepts sacred except that the end justifies the means. We have built a team which can construct the nucleus of a functional civilisation out of bits of string and matchsticks if necessary. Our coming to Cannis was simply an exercise."

Nash picked up the phone and dialled a number.

"Bring Ensign Harris to my office immediately—and forget the guards, I'm ordering his immediate release. That's right, you idiot, I said 'release'! Oh yes, and bring up another bottle of Scotch—no, make it a crate. We're going to have a party."

"Thank you," said Fritz Van Noon, bodger extraordinary.

NEXT MONTH —

STORIES OF TOMORROW

by DONALD MALCOLM, GEORGE LONGDON
and ROBERT PRESSLIE

THE WAITING GROUNDS

A New Novelet by J. G. BALLARD

and

GRAPELINER

A NEW SHORT NOVEL by JAMES WHITE

—in your NEW WORLDS —

ALIEN

by FRANCIS G. RAYER

The ship came like a shadow out of the clouded sky, her speed of descent decreasing. Around her outline hung a faint blue halo, slowly fading in strength, and vanishing as she came to rest on the dry turf. The summer storm was closer and a brisk wind had arisen beyond the nearby copse, and blew across the field, carrying scattered drops from the thunderclouds.

The ship had come without sound, and remained quiet, giving no indication of what she carried. Fifteen minutes had passed when a boy came along the lane at one side of the field, cycling fast to reach home before the storm broke. At a point opposite a low place in the hedge he glimpsed the ship, wobbled and stopped, almost in the ditch. His eyes astonished, he let his cycle fall, and clambered up out of the ditch to the hedge, grasping two stakes as he gazed across the field. Then he slithered back, lifted his cycle and jumped on, pedalling frantically, coat flying, along the lane.

Barry Miller slid from behind the wheel, leaving the parking lights on. It would soon be completely dark. He wondered why it had taken

quite so long for information about the ship to filter through. The boy's parents had been frankly incredulous, and only after nearly an hour had his father consented at least to look. The rain had gone, the ship was still there—but the local police had seemed to regard the message that reached them as a hoax. Only after a visit, in person, from father and son did they send a constable. The constable's report brought out the local inspector, who would not commit himself with a communication to his superiors until he had in turn seen for himself. Even then it was a long time before a police car came out from the neighbouring town, and a scattering of sightseers already edged the lane.

Barry studied the ship across two hundred yards of open turf. It was already too dark for detail to be visible, but it looked perhaps sixty feet long and twenty high, of similar shape both ends, and was without any lighted port or other sign of life.

"What will we do now, sir?"

Barry found the local inspector behind him. He took down his binoculars and snapped them back in their case, slinging it over a shoulder by its straps.

"Cordon the area to avoid trouble, and wait until morning," he said. "Then to establish communication—we'll have men working on that. Meanwhile, the main thing is to keep local busybodies away."

"We can do that, sir."

By dawn all traffic had been diverted, idle sightseers cleared away, and initial steps made towards establishing communication with the newcomers. Covered lorries stood in a corner of the field, temporary headquarters until wooden buildings were erected. As soon as it was light Barry left the junior intelligence officers gathered there, and went to study the ship. He had scarcely emerged from among the closely parked trucks when a voice called him.

"I was looking for you, sir!"

Barry halted. Charlie Rand, his adjutant, was hurrying towards the parked vehicles. His expression was rueful, but that was not unusual with Charlie, Barry reminded himself. Slight, a few years Barry's junior, Charlie was pessimistic by nature.

The younger man stopped. "It seems we may have been hoaxed after all, sir!"

Barry's gaze flashed instinctively towards the ship. The light was still too poor for details to be seen, but the vessel looked factual enough.

"It's easier to show you, than explain." Charlie Rand gestured. "I've just been walking round, looking—"

He left it at that, but turned back the way he had come, walking near the hedge that ran out at right angles to the lane. Fifty yards from the trucks, Charlie halted.

Barry gazed at the ship. The light was improving every moment. Seen from here she was just as impressive, just as inscrutable. Not, perhaps, quite as long as he had supposed, but a good fifty feet.

Charlie Rand pointed back at the trucks. "The lane only runs along that side of the field, Barry." He indicated the nearby hedge. "This is pretty high. The ground rises beyond it, and there are bushes and the copse." He turned half circle. "Right across the field there it drops to the stream, which practically meets the copse half a mile farther on."

Barry nodded, taking it in at a glance. The field was roughly triangular, with the lane along its shortest side. He saw Charlie's point.

"You mean we've only seen it from this side, so far, Charlie."

"Just that! The trees and bushes prevent easy observation from this side. The ground sloping down towards the stream hides it that way. You can see it from the lane easily enough, but that's all."

Barry frowned, wondering where all this led. Charlie was not the man to make a fool of himself, or others. Had he been, he would not have become an intelligence officer chosen for a job like this.

"And what does the ship's position mean?" Barry asked.

"That some joker could have set her up as a stage prop!"

Charlie walked on quickly, and as he followed Barry saw what he meant. The farther they went, the shorter the ship became. It was not the normal shrinkage, as would be expected when coming into line with bow or stern, but much more abrupt and final. As she shrank, Barry's steps automatically slowed. She looked forty feet long, thirty, twenty . . . Then much narrower than her height, and still shrinking. Mere feet, then perhaps inches, then nothing. Barry halted exactly behind Charlie Rand, looking over his shoulder.

"See what I mean?" Charlie said. "She's cardboard, or paper on a wire frame! Not thickness at all."

Barry nibbled his lower lip, his dark brows drawn together. He

rubbed his long chin.

"It's impossible!"

"But you're seeing it," Rand said factually.

Moving back, Barry saw the ship reappear. As Charlie said, it was exactly as if they now had an edge view of a mere flat card or paper outline, meant to be seen from the lane only.

"But its size!" he said. "And who'd waste their time with a game like that?"

He did not feel convinced. Walking on, he found that the ship again began to appear. He returned to the zero point, and began to walk out across the field. Each time he deviated from a straight line, the ship became visible, as would a flat card outline. Yet he was sure this was no hoax. Nor was the edge of the material, or any supporting frame, to be seen.

He walked more slowly as he drew closer, pausing often. Men by the trucks were watching him. Following a curved path, so that a little of the ship remained visible, he carefully approached its nearer end. He noticed dew on the grass, distant mist under the dawn sky, and felt a slow mounting of inner tension. Then he was at the end of the ship. When he stood exactly in line with it, it remained invisible. Moving a trifle to left or right made it begin to appear. It apparently had all the properties of a canvas stage backdrop, but no thickness. Reaching out, he felt a cool, smooth surface. He could put one hand flat on each side of the ship, bringing his fingers one upon the other. When he pressed, his finger tips flattened, but touch told him it was not one upon the other, but upon a shiny, metallic surface. Drawing his head close, he had an odd stereoscopic effect of seeing both sides of the ship at once, lane side with his right eye, field apex side with his left. There was no visible separation between his finger tips.

He withdrew a pace, looking towards the trucks, and grunted. Vehicles and men were oddly distorted, drawn askew like a twisted tapestry pattern.

He returned the way he had come. Charlie Rand's round, sober face expressed curiosity.

"It's no hoax," Barry said heavily. "It's real enough—but has infinitesimal thickness."

He did not try to explain, but started back towards the trucks. Two

staff cars had just draw up near them, and three men got out, and a girl who stood motionless, staring out across the field at the ship. A mongrel dog sniffed the earth at her heels.

Barry stood erect behind the chair, a hand on its back. His grey suit was tight buttoned, exact as the uniform he had discarded, and his cheeks were drawn in with thought, accentuating the length of his high boned face.

"As I see it, our first job is to establish communication with whatever may be in the ship—if there is in fact anything in it," he said.

A high ranking officer on his right ceased doodling on his pad. "You're not certain there is—anything in the ship?"

"Not yet." Barry glanced from him to the others in the recently erected H.Q. hut. "The ship is apparently without thickness, but we must act on the assumption that this is an oddity in its spatial relationship with this planet, unless we admit two-dimensional objects can exist."

"There has been no indication of life in the three days since it came," a girl said down the table.

Barry nodded. He had already learnt to respect Diane Everford's opinion. "No. But such a waiting period does not mean the ship does not contain life."

"You have plans?" the officer asked.

"Ideas, sir." Barry pulled his chin. "We already have an excellent radio technician in Rand, my adjutant. He will try to communicate with the ship by radio, and search for signals from her. Miss Everford has been sent here because of her ability as a linguistic decoder. Other specialists are available. By one means or another communication should be possible."

The meeting left it at that. Outside, Barry stood bareheaded under the sun, studying the ship. She remained exactly as at the moment of landing, except that a hazy green ring about six inches in diameter hung at one end, nearly at ground level. It was without visible support or purpose, and had appeared when he was not watching.

"You're wondering what it is," Diane Everford's soft voice said at his elbow. She whistled, and the wire-haired mongrel that had arrived with her in the staff car shot out from under a truck.

Barry watched her fondle its dappled ears. "At present, my guess is

no better than your dog Trotter's, Miss Everford," he said sombrely. He studied the ring for the twentieth time that day. It was hazy, rather like a weak electrical discharge. "It may be some manifestation of the drive. If so, I hope that doesn't mean they're leaving."

Her keen grey eyes sought his quickly. "You're keen to establish communication, aren't you?"

He did not deny it. "This is much of a test case for me. I've been working upwards of five years to hold my place in the first manned ship to leave Earth. If I can't establish contact with the beings in her," he jabbed a finger towards the ship, "what chance have I of getting the selectors' vote for Mars or Venus? What's more, I've always told myself that it would be possible to set up intelligent contact with *any* alien life form, with no intermediate steps, go-betweens or translators."

She nodded. "What's your first step?"

"To get Charlie's radio equipment set up. To watch and listen for signals from them, and try to signal back."

"Was that what you were doing before dawn this morning?"

He looked a trifle sheepish. "Signalling with a torch? Yes. I admit it was a bit primitive, but worth trying. Just one flash, a pause, two flashes, another pause, then three. The inference is, that we're showing we can count. When they realise that, they signal back four, five, and so on—"

She stopped him. "A first step, I know—a lot of my work begins with things just as simple."

She left him, going off towards the covered truck which had become her temporary office. Barry stood considering the ship, wondering what she contained, if anything. She had length, height, but no apparent thickness. Theoretically, she could not exist. A mere plane, having only length and breadth, was an abstract, never found on Earth.

The commander of the Flatlander ship turned from his instruments, discouraged, and locked himself in the temporal continuum of his aide. His cilia vibrated.

"Has any significance been found in those aurora observed in the arrismeter?"

"No, sir. They appeared to be fairly regularly spaced, but without temporal extension. When beginning, each was of 9,000 pagliton units, but that soon fell to about 7,000 PU's. That, and their lack of uniform-

ity in spacing, suggests they were some natural phenomena."

"According to the arrismeter, their source moved slightly."

"Yes, sir, but motion does not necessarily indicate life."

That was so, the commander agreed. So far, their instruments had only yielded chaotic information from outside. There were no pauses or interruptions in the temporal flow, to which instruments could be locked, only a ceaseless avalanche of impressions too brief to record or observe.

"Possibly this planet has no intelligent life," the aide suggested.

"It may be so." The commander reviewed his scanty store of information. "There is a body in continuous movement some short distance from us?"

"Yes, sir. Its length is so great it cannot be charted. Its width and depth are very variable. Its movement so far has always been in one direction."

"Could it be some kind of—of serpentine being?"

The aide's cilia hung limp for a long time. "I do not know, sir."

"The many thousands of tiny objects which were recorded as striking our hull, when we landed, were believed to be of somewhat similar constitution to the continuously moving serpentine object, I understand?"

"So our computer stated, sir."

"Could those thousands of tiny objects have been this serpentine object's young, attacking us?"

"I do not know, sir."

It was clear that they must gain more information, the commander decided. He returned to the arrismeter, but nothing showed on its screen. The temporal observation screens, with the time locks off, were worse, and the senseless flurry they presented sickened him. With the time locks on, the screens were alike blank.

He left that at last, and floated through the slot into the plane of his second-in-command.

"Have significant electro-magnetic vibrations been detected?"

The second was morose. "No, sir. There is a high background level, but nothing intelligent has been found. We are trying the effect of radiating signals of basic significance, beginning with numerals."

"Good." The commander drifted on, but paused in the slot. "You are using the universally accepted time standard notation?"

"Yes, sir. Infinity minus 1, infinity minus 2, and infinity minus 3. If

any intelligent being is reached, and has the means to reply, we expect the infinity minus 4 numeral—”

“Good.” The commander felt all within his power was being done, and propelled himself towards the beam slot room from which a report could be sent back to base, many worlds away.

“Only a lot of static and interference,” Charlie Rand said. He wiped his brow and sat back in his chair, gloomily surveying his equipment. “Unfortunately the direction finder doesn’t give a reading on it.”

“Then we’ll assume it’s from the ship,” Barry said. “If you get anything definite, or anything which might be a signal, let me know.”

Rand grimaced. “If I saw a needle in a haystack I’d stop you sitting on it—but I wouldn’t promise to find it.”

He returned to his equipment, slowly adjusting dials as he searched the bands.

Barry surveyed the equipment. The bright bulb over the bench gave him an idea.

“I’d like to run a wire out and signal with a powerful light. My torch was none too good.”

Charlie Rand did not look round. “Help yourself. Any other ideas?”

“The square root of the product of the squares is a fairly generally accepted phenomena. I’d like to get it set out in lights. If we establish only one point of contact in mathematics, it’s something.”

“Could be,” Rand agreed.

Barry went out, sending a man to hook up the lead. Diane Everford was approaching with the dog Trotter at her heels.

“Any information, Mr. Miller?”

“Not a thing you can work on.”

She seemed disappointed. “I thought you looked purposeful—”

“Only with a stronger light. Meanwhile, I’m also having rigged up a board with the old hypotenuse theorem. Four lights for the horizontal, three for the vertical, and five for the hypotenuse. Four squared plus three squared equal five squared. A universal truth that demonstrates at least some appreciation of science.”

She clicked her fingers, calling back the dog. “I’ve seen it work in stories.”

Barry sighed heavily. He had noticed that people seemed to think

that he should automatically produce immediate success. Yet all he could do was try everything, to obtain one point of contact from which they could progress.

He saw the board wired up, connected, and had it propped vertically fifty yards from the ship. Then he took the mains lamp and switch, on its cable, and returned to his original position, where the hand lamp had failed to evoke any response.

The Flatlander commander jerked out of repose as his aide's arm came through the slot, stirring him.

"The arrismeter is responding, sir!"

The commander was fully awake, now, and propelled himself through the slot into the instrument chamber. A waving line danced on the arrismeter screen, crossing a circle that drifted from right to left.

"The aurora is much stronger, this time, sir," the aide pointed out, "and it is modulated."

"Give me the readings."

"It is nearly uniform at its peaks at 180,000 PU's and modulated at just over ninety-eight standard units per interval." Lines danced across the screen, interlacing. "There is a background of secondary aurora, but the arrismeter cannot deal with the simultaneously presented data."

They observed the screen for a long time. At last the dancing lines showing the characteristics of the more powerful aurora ceased. The commander remembered the very powerful aurora discharges at the time of their landing.

"You think these manifestations are from the intelligent beings?" he asked at last.

The interval before the reply was long. "No, sir. First, we have observed no living beings whatever on the planet. Second, the aurora appear to carry no information. I have had the time lock on each individually, without success. I believe they are some natural phenomena."

"You are probably correct."

Disturbed, the commander went again to his own observation screens. As depicted by his instruments, the surface of the planet was in a state of continuous flux. Great volumes of material were constantly in motion. Some, only dimly recorded on the monor-echo screens, apparently extended for many miles above, and in all directions. Nearer, heavier ob-

jects slid along, following the same wandering course. At other points, more or less solid objects seemed to move at random. As a background to it all was the constant rush of time, and nowhere could his instruments detect a time lock, or the quiescence of temporal stability. The endless cataract of time outside the ship sickened him, and he wondered if it were indeed possible that any being could exist in it.

At length he returned to his communicator slot, and beamed out a provisional message. In his view, the planet was not inhabited. It had no temporal stability permitting life as he knew it. But if the planet were irradiated for eventual occupation, that could be overcome. Settlers would require personal time lock equipment, until conditions were modified, but that would not be impossible.

A reply came soon, with a request that data be furnished as obtained. The commander signed off feeling the heavy burden of his responsibility. The Flatlanders could not afford to miss a good planet, like this might become. Yet they would never risk the total elimination of any life it might contain.

He descended a slot to the lower deck of the ship, and located the deck officer.

"You have had nothing in the spatial extension?"

"No, sir." The other referred to instruments linked to a dim green ring outside the ship. He could not observe the ring directly, because it was locked to the chaotic temporal progression of the planet, but his equipment showed that it was undisturbed.

"Inform me at once if anything arises," the commander ordered. "This planet experiences a conjunction of gravity fields which limits our stay."

He made a brief tour of the ship. His officers were each at their posts, and had in no way relaxed vigilance. Electrostatic discharges were going out regularly on 300, 400 and 500 eneries, and the time lock screens were in constant use, with the vague hope of chancing upon some manifestation which would show life existed on the planet. But every locked screen was blank, and every running screen presented such a mass of confused data that sifting and intelligent study were impossible. The commander doubted whether any creature could indeed live outside the ship, enduring the relentless, impossible cataract of time there.

"There's a bit of a hiss just under 30 megacycles," Charlie Rand said. "But I doubt if it means much. It may be some kind of direction beacon for other ships to home on."

He turned up the volume on a speaker. A series of dots jabbed endlessly at Barry's ears. They conveyed no more than the 50 cycle whine of Rand's other equipment.

"Personally, I doubt if there's any living thing on the ship," Charlie said, turning down the volume. "It's thin as a shadow. How can anything be inside?"

Barry sat on the edge of the bench, swinging a long leg. "You have a point there, Charlie. But they may have other dimensions to compensate for that, or be able to do without them."

"Then why no radio messages, light signals, or the like?"

Barry sighed. "If I knew the answer to that, I might have the answer to my own problem—how to communicate." In his mind's eye he could see Earth's first manned ship taking off: without Barry Miller. And in addition to the personal challenge, there was a challenge to humanity. Mankind apparently had an alien race's representatives in its back garden, and couldn't communicate.

A junior Officer tapped on the half open door, looked in, saw Barry, and saluted.

"This was for you sir."

Barry took it, thanked him, and slit the envelope. Its code heading was that of his immediate superior. His face was without emotion as he read the contents. He folded the sheet, replaced it, and put the envelope in an upper pocket.

"Good news," Charlie Rand asked sadly.

"For those who envy my job. I've a week to get results, then will be removed."

It was not unexpected, he thought. Someone would have been sitting on his superior. It was inevitable. He wondered if the ship, thin as a shadow as Charlie so aptly put it, could indeed carry intelligent beings with whom even a single common point of contact could be established.

Later in the day Charlie reported two other signals, on different frequencies, but apparently not an attempt to establish contact. They resembled the endless series of dots first heard, though the periods were perhaps infinitesimally longer. Rand classified them as some kind of ra-

dio beacon. They did not vary in power or speed, and no specialist at the camp could read any significance in them.

Several times Barry walked slowly round the ship. From the lane and apex of the field she looked real. But seen from each end, she vanished to a line, then to nothing. Her thickness was zero. One very essential dimension, required to make a complete solid, was absent.

He studied the hazy green ring, squatting before it. Strangely enough it was the only manifestation which did not shrink to nothing and vanish, when he stood in line with the ship. He decided that test equipment must be brought to bear upon it, in an attempt to analyse its purpose or nature.

As he went round the ship, and back along near the stream, he heard rapid feet scurry in the grass. Trotter came from behind trees, followed by Diane Everford.

They walked in silence side by side, then she halted. "How many dimensions do we have?"

He looked at her. "Three. Height, length, breadth. They make up a solid." He pulled his long chin. "Some call time the fourth, but not in the same sense."

She nodded, looking at the ship, just visible over the rise. "That ship has height and length, but no breadth. Could time be their third?"

"I doubt it."

"Then how do you explain this effect we get of her having no thickness?"

"I don't explain it," Barry pointed out morosely.

He watched Trotter run on ahead, sniffing at an abandoned rabbit hole. His nose went in enthusiastically, and emerged covered with old leaves.

"My investigations have been about as useful as that," Barry said.

He left her, and walked back towards the huts and trucks. He was beginning to wonder if Charlie were right, and the ship empty, or some kind of mock-up or remote-controlled model sent for unknown reasons.

The Flatlander commander thought for a long time before energising his transmitter. Arrismeter, monor-echo, and all other instruments had given negative results. Repeated broadcasts of $10=1$ and allied symbols had brought no response. Privately, he was of the opinion that no life

existed on the planet. Lacking any control of the important dimension of time, intelligent life could not exist, he thought. And nowhere within range of the time-lock apparatus had any halt in the temporal progression been found. Lacking an essential dimension, the planet must be empty.

Contact established, he began to give his report. The coincidence of gravitational fields was imminent, and they must soon leave. No intelligent signals had been located on any electro-static or other band, and no time lock had been found. His headquarters base was cautious.

"You have seen nothing whatever which could suggest any form of life exists?"

"Nothing. There are many natural phenomena of unknown origin, as would be expected. The inter-spatial ring has been out with no result. Personally, I cannot conceive that any rational being, or life form as we know it, could exist on the planet. There is no indication of any control whatever of the progression of time. In such circumstances, there could be no stability. Indeed, exterior conditions, as they now stand, are intolerable. We will make final checks, but I see no reason why the planet should not be set down for irradiation. Settlers will require personal time-lock units, until conditions have been improved, of course."

"Very well. We will list the planet for irradiation and colonisation."

The commander signed off, and drifted down through his slot for a final check of the screens. The mad dance of time outside the ship sickened him, stealing away reason and tranquility, and he switched off the equipment hastily. It was unthinkable that any being could survive when exposed to such temporal currents, he thought.

The monor-echo and arrismeter technicians had relaxed, knowing no further discoveries were possible. The instruments had conveyed all the information of the external world that was within their power. For a time he had supposed that the grouped aurora located by the arrismeter might be an attempt to signal, but each source had been of slightly different intensity, and they thus had to be dismissed as natural phenomena.

The commander ordered that the ship's drive motors be made ready. There was obviously no life on the planet. He would personally be glad when the ship could leave. Holding her there was like having anchorage on the lip of a cataract.

Outside the headquarters building, Barry chewed his lips, seeking a solution where he knew none existed. The remaining period of his command could now be counted in brief hours, and he had accomplished nothing.

A truck was coming in, bringing equipment which had been used to analyse the green ring. Charlie Rand got off it as it slowed, and Barry went to meet him.

"You've found nothing?"

Rand's expression had shown it, and he nodded. "Nothing useful. The ring has a very localised oscillatory field, stable in frequency and power. Exact information is in the truck. It could be to do with their method of propulsion, or have some association with the radio beacons."

Barry felt keen disappointment. "You've made nothing more of the radio signals?"

"No. I'm convinced they're location or identification beacons."

"They're not trying to get over some information to us?"

"Not so far as anyone here can see. The signal around thirty megacycles is just dots. You heard it first. The transmissions around forty and fifty megs are almost identical. None of the signals has varied by a hair's breadth."

Barry admitted he could make nothing of the signals himself. They had the regularity of auto-coded radio beacons. He wondered at their own inability to get any radio response from the ship.

"None of your transmissions raised them, Charlie?"

"Not a one. I've just been explaining one possible reason to Miss Everford, who is longing to have something to work on. Their radiations have characteristics our lack. So we can hear them, but they can't hear us. I'll give a simple example. If you've got a transmitter radiating Morse in the form of modulated radio-frequencies, I can hear you on any set. But if I'm radiating Morse as an interrupted radio-frequency, you can't hear me unless you've got an oscillating detector or beat frequency oscillator to beat with my signal and produce audio." He sighed. "I've not got any signal over to them because our transmissions lack something their receivers need, if you ask me."

Charlie Rand went on into the radio hut, and Barry unslung his glasses to study the ship, perhaps for the last time. He wondered what odd interaction of dimensions made it seem without thickness.

An exceedingly faint blue halo hung completely round the vessel, just visible because of the light-collecting power of the large lenses. Diane Everford came from among the trucks. He handed her the binoculars silently. She gazed at the ship through them, and her brows shot up.

"You think it's leaving?" she asked quickly.

"Could be! If it does, with no communication made, the remains of my career wouldn't be as valuable as one of Trotter's old bones." The dog sat pawing Barry's trouser leg. Barry patted his piebald head. "Apart from that, it's pretty damning that we've been too dim to establish contact some way or the other."

His face heavy, he started off across the field. If the ship was going to rise, he might at least witness that at close quarters. If there were personal danger, it did not seem important.

As he drew nearer, he noticed a faint humming, as if equipment inside was reaching operating trim. He walked completely round the ship, aware that the hum was steadily increasing. The green ring still hung at ground level, but he would not be surprised if it vanished any moment.

Small feet came scampering across the turf. Barry halted, patting the dog's wiry back.

"You're as good as I am at this, Trotter! Find 'em!" Barry knew he was trying to make a joke of it, delaying the impact of his superior's criticism.

Trotter shot round the ship, disappeared, and reappeared beyond one end. He halted, nose twitching, pointing at the green ring.

Barry's interest quickened. "Rabbits!" he said. "Find 'em!"

Trotter arrowed for the ring. His nose went through, and half his head, but his ears seemed to stick. His back toes sank into the turf, as if he was pulling a rabbit from its hole. Then he came out backwards with a rush, his teeth closed on something that glittered brightly.

Barry ran, squatting to take it. Metallic, so thin it seemed to have no thickness, it was etched with ideograms. One series showed the ship amid pairs of wavy lines, then rising. A long space, while the wavy lines disappeared, then the ship returning.

"You've got something here, Trotter!" Barry said.

Abruptly the green ring snapped out. The blue halo round the ship increased, and the vessel began to rise. It seemed to recede, rather than

move, and went like a shadow into the blue sky.

Barry turned from the spot, composing his words, the ideograms in one hand. The ship was leaving . . . but it would be back . . . and there would be communication . . .

The Flatlander commander sensed his aide's urgency as the aide came through the slot from the lower deck.

"We're well away?" he asked.

"Yes, sir." The aide's cilia bristled with excitement. "A moment before rising, just as we were going to remove the inter-spatial ring, part of a living organism came through it, and took away the prepared ideogram."

The commander felt astonishment. "You are sure?"

"I witnessed it, sir! At the last moment. The organism cannot be classified as yet, but showed intelligence and purpose—"

"Very well." The commander began to propel himself towards the communications equipment. "I will send out a cancellation of the irradiation order. When the interaction of local gravitational fields has ceased, we must return."

He paused a moment at the arrismeter screen. On time lock, it was blank. Keyed to exterior time, its presentation of the remote planetary surface below was chaotic. He wondered what manner of beings could possibly exist there, living amid the cataract of moving time, apparently with no means of isolating themselves from it. He shuddered involuntarily, personally glad that some time must pass before the position of the planet's satellite permitted the ship to return.

FOURTH ANNUAL LUNACON TO BE HELD

As we went to press, the Lunarians were announcing that their Fourth Annual Lunacon would be held on April 10, 1960, at 213 West 53rd Street, in New York. Films, speeches and discussions relating to science fiction will be presented from 1 to 6 p.m. Membership fee is \$1.00, payable at the door or by writing to Belle C. Dietz (Secretary of the Lunarians) at *Fantastic Universe*, 270 Madison Avenue, New York 16. Mrs. Dietz, as many readers undoubtedly know, contributes a monthly column on fanzines to our companion magazine.

joker's trick

by LAN WRIGHT

At the time he resigned from the Space Commission, Johnny Dawson looked forward to a long and pleasurable retirement. At thirty-four he had sufficient money in the bank to obviate the need to work, and the annoyance which his resignation had caused Hendrix, his immediate superior, was an added pleasure for him.

After six months the pleasure of Venus City began to pall, and the efforts of a succession of nubile young women to trap him into marriage, while pleasant, were definitely embarrassing. An urgent call from his bank summoning him to Earth was a diversion which he welcomed, and, by the time he landed at White Sands Space Port, Dawson found the attractions of Earth far more nostalgic than he would have believed possible six months earlier.

It was late afternoon when he landed, and he sent a videogram to his bank telling them to expect him late the next day. The hotel at the spaceport gave him a room and an excellent meal, and, with little to occupy his mind during the evening, Dawson headed in the direction of the nearest bar. He spent a pleasant hour watching a floor show that had girls who were not burnt a deep brown by the unfiltered ultra-violet of

Venus, and he realised that he had almost forgotten what normal, cream-smooth female flesh looked like. The drinks, too, had an indefinable something that they lacked on Venus, and he remembered the words of a bartender at Venus City who had solemnly assured him that good Scotch did not travel well away from Earth.

The amber liquid in the crystal glasses was good taste—even the final one which hit him straight between the eyes so that the bar-room did a queasy somersault and the floor pirouetted to meet him as he fell.

Dawson awoke with a raging headache and a nauseous stomach that threatened to deposit its meagre contents on the floor at any moment. He lay quiet, his eyes closed while indefinable sounds pierced his hearing. There were memories, dim and vague, of drinks and bars and laughter—of more drinks and then oblivion. He groaned and tried to sit up.

"Hallo, Mister Dawson. Feeling better?"

The girl's voice was pleasant and familiar, so familiar that it shocked Dawson into some semblance of order. His eyes opened and he shot a horrified glance around the all too familiar office with its neat furniture and the pretty secretary sitting at the desk.

"Judy! What in the world—?"

The girl smiled. "Would you like some coffee?"

Dawson shook his head, a nasty feeling of finality sifting through him as a well-remembered tickle of apprehension made itself felt. It was a feeling he hadn't had in more than six months.

"What happened, Judy?" he asked, after a minute.

"You had a few drinks too many," the girl told him primly. "Mister Hendrix brought you in with him this morning and said I was to let you sleep it off."

"And of course he'd like to see me when I'm fit," Dawson nodded and looked at the door which led to the inner office.

The girl nodded brightly. "Just go right in, Mister Dawson."

One of Dawson's nightmares was of Hendrix, black-haired and bulky, complete with black cigar and cold smile, waiting for him like a spider in the middle of a large web. He got up from the couch and the nightmare grew as he crossed to the door that led to Hendrix' office. He knocked and went in.

Hendrix looked up from behind his desk, and greeted him with a

broad smile.

"Well, well, Johnny. How are you feeling? Long time no see."

"Not long enough," growled Dawson. "What the hell is all this?"

The cigar twitched in a well remembered manner, and the black eyes widened in an air of mock surprise. "Why, Johnny, is that the way to greet an old friend after all this time?"

"Six months isn't long. What happened?"

Hendrix shrugged. "The Chief of Police gave me a call this morning and said you were residing in one of his less comfortable cells. He thought you still worked for me, so—"

"You got me out."

"It was the least I could do, and anyway I wanted to see you. As a matter of fact I sent a videogram to Venus yesterday. I didn't know you'd left there until the police call this morning."

The ticking inside Dawson grew stronger and nastier. After years of experience the fact that Hendrix wanted to see him sent itchings of anticipation tingling along his nerves. It was an odd sensation, at once unpleasant and subtly pleasing, like a drug to an addict who knows very well that his addiction is an evil thing.

"Now let me guess." He cocked an eye at Hendrix. "Why should you want to see me? No, no—" he waved away Hendrix interruption. "Don't tell me. You've got a job that no one else can do. Right?"

Hendrix nodded sombrely. "Frankly, Johnny, I'm in a spot. I've got a job all right—a tough one, and I need the best man I can get to do it. Sure, I know, you quit for good, and I wouldn't try to get you back on a permanent basis—"

"Fat chance," snapped Dawson. "Not any more, Hendrix."

"Pity." The cigar depressed a few degrees. "I wanted you to escort Martin Gill to Mylon. You heard of Gill?"

Dawson frowned. A tough job, Hendrix said? Escort to a man like Martin Gill didn't sound very tough. Gill was perhaps the finest classical pianist that Earth had produced in decades. He was the greatest exponent of Chopin since Rachmaninoff, and he was the only man who even began to understand the beauty and the intricacies of Mylonian music.

"Now tell me the real story," said Dawson softly.

Hendrix grinned wryly. "We're sending Gill on a short tour of Mylon as a morale shot for the local Terran population. There's a lot of tension between them and the native Mylonians, and it needs quietening. The Mylonians are great musicians, you know—"

"I've seen them on the video screens," replied Dawson.

"We figure a visit by Gill will impress them a bit and help to quieten things down. We daren't do other than send the best musician we have—and Gill is the best."

"And you want your best man just to escort him?"

Hendrix leaned back in his chair and gazed myopically across the room. "Gill's trip is a cover, Johnny—"

"That I already figured."

"Something is going on and we can't find out what it is. We already lost four men out there, and there's a good chance that number five has joined them. The Commission thinks it's time we took some drastic action, and that action demands the best man we can get." He looked hard at Dawson. "Whether you like it or not, you're the best man we ever had, Johnny."

"Why should I stick my neck in a noose to help you out?" asked Dawson sourly. "I don't need the job."

"Well, if you feel like that about it—" Hendrix studied the desk top before him.

"I do. Anyway, just what is going on? It must be pretty big for five good agents to be lost."

"We haven't one single thing to go on," replied Hendrix. "All we know is what I've told you, and every effort to add to that knowledge has failed. That's why we're sending Gill. First, we think it will calm things down a bit, and second, we think that a man who is apparently his personal escort will meet with less suspicion. It won't be easy, but we've got to do something."

Despite himself, Dawson felt a prickle of interest. It was a fascinating prospect, he had to admit, even allowing for the obvious dangers involved.

"Anyway," went on Hendrix, "I can probably transfer someone from another job. You go back to Venus and enjoy yourself, Johnny." He smiled wryly and rose from his chair. "It was nice seeing you, just

drop in any time you're around. We'll be glad to see you."

"Don't be in such a damned hurry to lose me," grunted Dawson. He thought briefly of the possible matrimonial complications that awaited him on Venus, and there was certainly a challenge in tackling a job that had so far defeated all the resources of the Space Commission. "If I took this job," he asked slowly, "no strings?"

"Aw, look, don't take it if you don't want it."

"No strings," Dawson insisted, "and I might do it."

Hendrix grinned like a cat and the cigar jutted several degrees higher. "No strings," he agreed. "It's nice to have you back, Johnny."

Mylon was the single planet of the star Beta Eridani, and it lay well within the sphere of Terran commercial interests. It had been discovered a hundred and thirty years before, and the intervening years had seen Earth pouring in money and personnel to raise the natives' standard of living preparatory to a full scale commercial development of the planet's natural resources.

The natives were humanoid but not human. They lived in a squalor that Terrans found nauseating, and the vast efforts to lift them from their low level of existence had met with little success. It was plain, stated a dozen different ecologists, that they enjoyed their squalor—it was a part of the Mylonian psychological makeup. The one redeeming feature of the race was its ability to create music of infinite and delicate beauty. In the light of their lack of achievement in other directions this was surprising, and Terran anthropologists gave as the reason for it the fact that the race as a whole was possessed of an acutely perceptive sense of hearing. In comparison the human race was almost completely tone deaf.

In almost every other direction the Mylonians were ignorant, treacherous, cunning, and as untrustworthy a crew as could be found anywhere in the Galaxy.

All this Dawson learned from tapes and stereo records which Hendrix supplied for his consumption during the trip from Earth. He learned a great deal more that wasn't connected with Mylon and its unprepossessing race.

His only previous acquaintance with the person of Martin Gill had been through stereo records, and although those records were accurate

in showing the physical appearance and technical ability of the great pianist, they did not show the more personal characteristics with which Dawson was more intimately concerned. On personal contact Martin Gill was an imperious, overbearing, thick-skinned snob, with an effeminate simper that Dawson found distasteful in the extreme. He was tall and willow, and he walked with his head held high and a slight sneer on his too-red lips as if an unpleasant smell hovered perpetually on the verge of his olfactory senses. Added to all this was an overburdened sense of his own importance engendered by the fact that he looked on Dawson as his own personal bodyguard supplied by the Space Commission to protect his most important person.

His continual mode of addressing Dawson was, "I say, you there," and after a month of it Dawson was ready and eager to throttle the words in the skinny throat from which they issued. His first impulse on landing was to run as far away as possible and hide until Martin Gill returned Earthwards once again.

The entire Terran community was centred around the single space-field which was about a mile from the largest of Mylonian cities. City was a loose term for about a hundred thousand natives who lived in a untidy, dirty and depressing collection of one and two storied buildings made of timber and stone—reminiscent of the worst conditions of the Terran middle ages. By keeping to themselves the Terran population avoided the smells, the germs, and, as far as possible, the natives. Some did act as servants in the Terran community, and there were several in evidence as Dawson and Gill took up residence in the apartment which had been prepared for them.

Dawson was in his room unpacking, when the door was pushed open and the high simper of Gill said, "I say, you there," for the thousandth time.

He straightened and turned an angry eye on the pianist.

"Now what?"

"The Terran ambassador is giving a party in my honour this night. We are to be there at eight." He turned and swept from the room before Dawson could utter a word.

He shrugged and went on unpacking. The Terran ambassador was as good a place as any for him to start. He had no credentials, nothing to

identify himself, but Hendrix had assured him that suitable information would be sent ahead, and someone would get in touch with him.

He spent the rest of the day getting himself sorted out, and in preventing the majority of his belongings disappearing with one or another of several Mylonians who visited the apartment on clearly improbable excuses for the exact purpose of stealing as much as they could before the new arrivals had been told what to expect. Dawson wasn't impressed with them. They were of roughly Terran height, but slender to the point of emaciation; the fine bone structure was covered by a layer of soft, velvety muscle that gave notice of far greater physical strength than the frame indicated. There were no ears and no nose to break the round continuity of the head, and the eyes were lidless orbs of black set in deep, wide sockets. The wide mouth had the double function of serving as a breathing orifice, and for that reason Mylonian eating habits tended to be noisy and uncouth—rather like a Terran with a permanent nasal blockage. The hearing organs were set flat against the head at the side of the eyes, and were covered by a thin, fleshy membrane which, so the scientists said, was far more efficient than having it inside the ears as was the case with humans.

Looking at them for the first time, Dawson thought that he had never seen a more crafty looking bunch, and the experiences of his first few hours on Mylon confirmed the first impression that he wouldn't trust one of them as far as he could throw one.

The ambassador's apartment was, fortunately, in the next building, and all Dawson and Gill had to do was go down in one elevator, walk fifty yards, and go up in another elevator. The whole trip took only five minutes, but during that time Gill fluttered and fiddled and managed to ask two dozen different questions about the correctness of his dress.

Dawson said, "Yes, the tie's straight," and "No, there's no dust on your collar," in a bored monotone that brought Gill's eyes sharply upon him.

"I warn you, Dawson," he snapped, as the elevator whisked them up to their destination, "I shall be asked to give a report on your behaviour when we return to Earth, so just watch your tongue when you address me."

Dawson kept his thoughts to himself.

The ambassador's apartments were large and luxurious. They combined his official offices as well as his personal residence. Hugo Ross, the ambassador, was a tall, heavy man with a bull-like frame and a hard, uncompromising face. He greeted them both with equal warmth and Gill didn't trouble to hide the fact that the action displeased him.

The large, inner salon was crowded as Ross ushered them in, and Gill demanded nastily, "You did say eight, didn't you? We're not late you know."

Ross smiled. "I got all the other guests here early, Mister Gill, so that they could welcome you in style. After all," he went on smoothly, "we didn't want people dropping in at any old time and in small groups."

"Ah, yes. Of course." Gill simpered at the implied compliment, but Dawson didn't miss the slight twinkle in Ross's eye. The twinkle made him feel a lot better.

"It isn't often that we have the honour of welcoming a man of your standing on Mylon, you know," said Ross.

Gill simmered even more. "No, of course. I suppose not."

"You can say that again," put in Dawson, and was rewarded by a glare of pure hatred from the pianist.

Fortunately, Gill was soon swallowed in the welcoming throng, and Dawson was able to circulate quietly sampling the food and drink, and exchanging polite comments with people who hadn't been on Earth in several years. The time passed slowly and pleasantly, but it wasn't long before Gill was called upon to show his prowess and Dawson knew from a month's experience that there was nothing Gill liked more than playing to an audience.

He went in to the small room which served as a bar and sat alone for almost half an hour drinking steadily, while from the crowded salon came the sombre strains and crashing chords of the piano as Martin Gill extracted musical fireworks for the benefit of the ambassador's guests. He wasn't very surprised when the bulky figure of Ross came into the bar and sat down beside him.

"It seems that Gill is going to be busy for an hour," he smiled.

"At least," Dawson replied. "I saw him in action during the trip from Earth, and he's his own favourite audience. He kept on and on until even his most rabid admirers were screaming for mercy."

"Then now seems as good a time as any for us to have a chat." Ross

got up and led the way from the bar along a short passage to a wide, heavy door. He unlocked it and ushered Dawson inside.

"I don't think we shall be disturbed." He waved Dawson to a chair and seated himself in another. "Now then. How much do you know?"

Dawson shrugged. "Practically nothing. I'm supposed to contact a Terran agent—if he's shown up. After that—" He shook his head.

"The agent hasn't shown up," Ross told him grimly.

Dawson digested the news without surprise. Hendrix had warned him. "That makes five," he said slowly.

"We don't know that all the others are dead," replied Ross. "Two of them just disappeared, but it seems a reasonable assumption."

"All right, then. Where do I begin? What am I looking for? Who do I contact?" Dawson cocked a quizzical eye at Ross.

"I don't know," Ross told him bluntly. "If we had as much as a single clue it might break this thing wide open—but we haven't. We've known for over a year that something is going on here on Mylon. The disappearance of the first agent told us that. Since then the only lead we get is when another agent gets killed or just vanishes."

Dawson drew a long breath. "Well, that's a fine start. Haven't you a thing to go on?"

"We do know that two of our people used a native drinking house in the city. It's one of the larger establishments, and some of the Terran community go there for a bit of excitement once in a while. Roughly translated it's called the House of the Purple Zotul."

"The purple what?"

Ross chuckled. "Zotul. It's an animal native to Mylon. We have nothing comparable with it on Earth. I suppose a Terran approximation to the place would be—ah—the Stork Room, or—"

"—the Inn of the Yellow Firefly," finished Dawson.

"Something like that."

"All right. I go to this place. Then what?"

"You're on your own," Ross told him. "The only thing I can do is to provide you with a good bit of local currency before you go."

"Bribery?"

"It's the only way with this race. They're about as trustworthy as a pack of starving wolves, but they will sell information. A lot of it is useless, but something turns up from time to time. Most of the contacts

we've made have disappeared with sizable chunks of bribe money—they never had any intention of earning it." Ross shrugged. "We expect that. Apart from those incidents, three natives have met with serious accidents, and a couple more have turned up with the membranes of their hearing organs mutilated after a couple of weeks. That's a ritual form of punishment, so my tame Mylonian expert tells me. He thought it was done to warn us off as well as to punish the native for selling information."

"And it had the opposite effect."

Ross nodded.

"All right. So, how do I get away from Gill and get to work?"

"Gill won't be away for any length of time. We don't think it wise. All his concerts are within a radius of a thousand miles of this base and on this continent. He just goes off, gives his concert, and comes straight back. All in, he won't be away more than eighteen or twenty hours on his longest trip, and that'll give you plenty of time for snooping around. There'll be plenty of the crew from that cruiser out sightseeing, so you won't be alone. As far as the local population are concerned, Terrans have ceased to be a source of curiosity."

Dawson pursed his lips and gazed unseeingly at the far wall. The whole thing was so nebulous as to be almost non-existent, and he didn't fancy the prospects of following five other men to an unknown and possibly unpleasant end.

"And that's all?" He looked at Ross.

"I'm afraid so. Gill gives his first concert tomorrow at a large town on the far side of the continent. He won't be back until the following morning."

"Then I'll have about eighteen hours to snoop around while he's away." Dawson pondered for a moment. "A long first survey might be rewarding. Look, I want to be disguised and dressed as a crew member from that ship. I want to get into that native town and really tour the place."

"You're welcome," smiled Ross. "That dirty, smelling sewer might have come straight from medieval Europe. If you walk in the middle of the street you're likely to find yourself ankle deep in the main sewage disposal ditch, and if you stick to the sides there's a danger that similar

material will be emptied on you from the upper floors of the houses."

Dawson grunted. "Sounds charming. Anyway, can you fix me up?"

"Yes, leave it to me. Any more questions?"

Dawson shook his head gloomily. "A thousand," he replied, "but you don't have the answers."

The next thirty-six hours were the most unrewarding that Dawson had ever spent. At breakfast the next morning he had to endure a long and vivid description from Gill on the way in which he had enchanted the Ambassador's guests the night before, and it was a positive relief when Gill departed soon after two in the afternoon. The pianist went in a whirl of pompous excitement, and it was clear from his attitude that he believed he was taking the benefits of an advanced civilisation to the poor culture-starved natives of an alien world. The fact that most Mylonian musicians were better by far than he could ever hope to be, did not apparently occur to him.

With Gill gone, Dawson went to the Ambassador's quarters and was fitted with a uniform belonging to a junior technician from the ship in which he'd travelled from Earth. He plastered his face and body with a chemical dye, and headed gloomily into the native city.

Ross hadn't exaggerated in his description of the place. Most of the buildings were of stone and timber construction and looked as if they'd fall down at any moment. Dawson went straight to the Zotul House and spent an hour or two sampling various evil alcoholic brews, and asking innocent questions of various waiters. Each time he was greeted with stony silence. As night came the town became less prepossessing, if such a thing was possible, and the hours rolled slowly past as Dawson went from place to place at the eager behest of native touts. In every dive he asked questions, flashed money about, and tried to get some lead on the deaths and disappearance of his predecessors. All he got was silence and blank, veiled stares. Twice he got into a fight with Mylonians who were eager to relieve him of his cash, and next morning found him back at the Zotul, bleary-eyed with lack of sleep and the accumulated effects of several gallons of native brews. His one consolation was the thought of the prophylactic shots he'd had before leaving Earth.

For sixteen hours he had bribed and threatened and promised in a score of dingy bars and inns. He had questioned several dozen Myloni-

ans, collected a split lip and several painful bruises. And the final result was nil—he'd found precisely nothing.

He left the Zotul House and returned to the Terran colony. Gill was due back, and the absence of his escort might be noticed by one of the natives employed in the apartment block. He let himself into the flat without being seen, and was relieved to find that Gill had not yet returned.

The skin-dye vanished under the application of another chemical, and a needle shower removed some of the tiredness from his limbs. Fresh clothes and a pot of black synthetic coffee completed the transformation. It was almost nine by that time and Gill had still not put in an appearance.

He lay down on his bed and dozed for a spell, to be awakened by the buzz of the visiphone. The rugged face of Ross swam on to the tiny screen as Dawson answered it; he was grim and worried, and he said without preamble, "Gill is missing."

"What?" The shock jerked Dawson into full wakefulness. "How do you know?"

"He was due back soon after seven. That makes him almost three hours overdue, and we can't raise his copter on the air."

Dawson whistled. The immediate implications of the pianist's absence were quite clear. If anything had happened to Gill then he, Dawson, would be on the spot as far as Hendrix was concerned. He doubted if the Space Commission could do other than make an issue of it with the Mylonians if the matter turned out to be serious. It was possible for the copter to have met with an accident, but he doubted it.

"What about you?" Ross cut in on his speculations.

"Me?" Dawson shook his head. "A blank, Ross. The whole town seems to be sewn up tight. I tried bribery in a score of different places and I didn't get a single nibble."

Ross grunted. "Then you are the first one who hasn't."

"For one very good reason," Dawson told him grimly. "I've seen this sort of thing before. Whoever is at the back of all this has put the screw on the whole town. Those Mylonians are scared silly, they daren't say one word out of place under penalty of some threat or other. Every last one of them has shut up like a deaf mute, and that means only one

thing—someone is very worried. The trouble is finding who.”

“Are you sure that’s the reason?”

“Positive. In certain circumstances silence like that can be as eloquent as standing in the street and shouting at the top of your voice. Whatever is going on here is big—of that I’m certain, but just how to dig it up,” he shook his head again. “I’ll come down and see you in a while. Maybe Gill will show up soon.”

“Make it in about an hour, will you,” replied Ross. “I’m going to get a search operation going. If anything serious has happened to Gill—”

“Don’t tell me.”

Dawson cut the phone and relaxed in a chair beside the table on which it stood. Slowly, ideas were beginning to form in his mind. They were nebulous and incomplete, and there was little evidence to back them up. All he had to go on was his own very limited experience and the natural instincts of the native Mylonians. They were an avaricious, untrustworthy crew, every last one of them, and to refuse a bribe was quite against their nature. Therefore . . .

The visiphone buzzed again, and he answered it hurriedly and with no surprise as Ross’s face showed on the screen again.

“Gill’s copter has shown up. It’ll land in a couple of minutes.”

“I’ll come straight round.”

“Meet me in the Field Superintendent’s office,” Ross told him. “That copter’s been damaged and the crash crew has been called out.”

The screen went blank and Dawson grabbed his jerkin on the way out of the apartment. He made straight for the Administration offices of the space field, and got there just as Ross and a couple of aides arrived. The copter had landed far off on the other side of the large field, and an emergency truck was already headed for it.

“The pilot only just made,” said Ross, nodding grimly towards the distant speck. “The radio was right out—he didn’t even send an arrival time.”

“I just hope Gill is all right.”

“So do I. We’ve got enough trouble as it is.”

They watched the truck stop beside the copter. It waited barely a minute and then began its return trip.

“Come on,” said Ross. “We’ll meet them in the Superintendent’s office.

There won't be any ears listening there."

The Field Superintendent left them in privacy as soon as they arrived, and Ross paced the room anxiously while Dawson gazed gloomily out of the window. The two aides did nothing.

"I can't make it out, Dawson." Ross shook his head in obvious puzzlement. "What on Earth could have damaged that copter and put its radio out of action?"

"Sabotage, maybe."

"I doubt it. The pilot is a security man. He'd know better than to leave the machine while it was on the ground in a strange place with a pack of Mylonians around."

The truck came close and passed out of sight round the curve of the building.

"Well, you won't have long to wait for an answer." Dawson turned away from the window. "They're here."

Even through the closed door of the office they could hear the loud, protesting voice of Martin Gill, and there was relief in the quick glance that Ross exchanged with Dawson. The door was flung open and the lean, angry figure of Gill stormed in followed by another man whom Dawson rightly guessed to be the copter pilot.

"It's an outrage," was Gill's first angry shout. "Ross, I demand that you do something—"

"Yes, yes. I agree, Mister Gill," replied Ross in a placating tone. "Suppose you tell me what happened first."

"I was attacked—that's what," hissed Gill. "Me a representative of the—"

"Yes, quite," broke in Ross hastily. "Who attacked you?"

"How the devil do I know? I tell you, Ross, if something—"

"What happened, Jackson?" Ross turned wearily to the pilot.

The man shrugged. "We were headed in for a seven-thirty landing when someone opened up from the ground with missile weapons. That was about two hours out from the field. They hit us three times before I could evade them, and one shot put the radio out. The other two hit the body of the copter and cut a fuel line."

"What did you do?"

"I turned away and made about five miles before the engine started popping. Then I put down and made what repairs I could. It took the best

part of an hour and a half, and I finished just as the reception caught up with us. They were about a mile away when I took off—too far to do any more damage.”

“Did you see them?” demanded Dawson.

“Not clearly. We were on a ridge and all I could see were a couple of ground cars pushing through the scrub. Luckily the country was pretty rugged or they’d have caught up before I finished the repairs.”

“Something must be done,” shouted Gill.

“Shut up,” snapped Dawson.

“What!” Gill gaped in goggle eyed surprise. “You—you’ll pay—”

“Go fry your head, Gill.” Dawson turned to the pilot. “Can you pinpoint the place where you were attacked?”

“Sure.” Jackson took a stylo from his pocket and crossed to a large wall map. “Here’s our line of flight back to the field.” He drew a straight line diagonally across the map. “Now, here—on this ridge—is where I set down, and I figure the attack took place about here—five miles south west.” He put a small cross on the spot and tapped it with the stylo. “Right there.”

Dawson nodded. “Fine, now get out of here and take Gill too.”

The pianist’s face was a bright purple by now, and he fairly gobbled with rage. “Dawson, I’ll have your head for this.”

“On your way,” Dawson told him wearily, and the pilot led the raging man, still protesting from the office.

“Well?” asked Ross as the door closed.

“They’ve shown their hand,” replied Dawson with a grim smile. “I want a copter and a few other things ready in an hour.” He scribbled rapidly on a piece of paper torn from the desk pad. “There’s some other details for you to see about while I’m gone. I want to be in the attack area by two at the latest. Now, just get things lined up the way I’ve listed them, and make sure there aren’t any mistakes. We’ll only get one bite at this apple.”

Ross took the list and studied it with raised eyebrows, but if he was surprised he made no comment as he passed it to one of his aides. “See to it,” he ordered. Then to Dawson, “You’ve got some ideas, I can see that. Mind letting me in on it?”

Dawson grinned. “Some of it. We’re dealing with more than just the Mylonians. They don’t have missile guns and ground cars.”

"Outside interference, eh?"

"I think so."

"Then why didn't they use a copter and some ray weapons?"

"Too easily detected," said Dawson. "On the ground they're safe—relatively, that is—and you can detect radiation weapons but not missile guns. Look, I've got to pick up that ground party today if we're to break this thing. I'll have five hours daylight left when I get to the attack area. I just hope it's enough."

Ross shook his head glumly. "I hope you know what you're doing."

"If I don't you'll soon know."

Ross's aide was efficient, and Dawson reached the attack area well before the two o'clock deadline he had set. He found the low ridge on which Jackson had been forced to land, and he set the copter down. A few minutes inspection of the area showed the marks of feet and wheels—more feet than could be accounted for by two humans, and several of the outlined footprints belonged to a race that was neither Mylonian nor Terran. There were copter tracks, and the rutted indentations of two ground cars from which he was able to trace the route by which they reached the ridge. The tracks ran away to the south-west, and there was another set which ran almost due west and directly away from the Terran base.

Dawson took the copter up to a hundred feet and headed due west. The attack group had a good seven or eight hours start on him, but he figured that the nature of the flat, scrub-covered plain was such that their speed would not exceed about fifteen miles an hour, and at that rate they would be no more than a hundred and fifty miles away when he caught up with them—unless, of course their base lay at a point closer than that, in which he would pass right over it.

As he flew Dawson pondered his course of action, but he realised quickly that he couldn't think too far ahead. All he could do was to hope that things went the way he had planned them back at the field. Providing Ross did his part—!

Three times he landed to check on the tracks and make sure he hadn't lost them. The second landing cost him a good quarter of an hour while he searched for them in a small plain of alien vegetation. The crushed path they had taken veered slightly south as if a compass check had

altered their course a trifle.

It was almost four o'clock when he spotted them—a small group travelling in two ground cars and making good time over the bumpy terrain. Even as he came up to them at about fifty feet he saw the cars stop and figures pile out of them. Quickly he slipped the copter sideways and out of the danger area before they could open fire.

So that was the attack group sorted out. Dawson grinned to himself and set the copter on its course again, following the route shown by the ground cars. Somewhere, up ahead, lay the attackers main base—and the answers to a lot of questions. For half an hour he flew steadily on, and ahead of the copter a range of mountains rose from the mists of the horizon. Ten more minutes and he was over the foot-hills, while before him the dark slit of a pass cut through the jagged, towering peaks. He took the copter into the pass, and sheer, black cliffs towered on either side, grim and forbidding.

The copter lurched suddenly, and an explosion sounded somewhere in the back of the body. He took it up fast, weaving and dodging, and cursing for not having realised that the pass would be well guarded. The ground was dark and he couldn't see where the firing came from, but the fact that explosive missiles were used instead of radiation weapons was further reinforcement to the fact that those who used them dare not take any chances.

The mountains opened suddenly before him, and there was clear sky where before had been only sheer rock faces. A wide, flat plain, bounded by a ring of hills, spread before him, and Dawson felt no surprise as he saw the small, compact square of low buildings nestling in the shelter of the mountains away to his left. He swung the copter round and headed towards the tiny settlement.

There were no more than twenty buildings, single storied, long and low, with a larger, higher structure some two hundred yards closer to the hillside. As he circled nearer he could see a conveyor system running from it towards the mountains less than a mile off, and in the sides of the hills, low down, the gaping eyes of three mine shafts showed black. Symmetrical pyramids of waste rock and rubble completed the picture, and Dawson smiled in grim satisfaction as he realised that he had found what he had sought.

Already the noise of the copter had brought figures out of the build-

ings, and they stood watching him in the open spaces. Even at this height he could see that although they were humanoid, they were certainly not human.

For a brief instant he was tempted to head back to the pass and make a run through the gauntlet of fire in an effort to get back to the Terran base; the thought died even as it was born. He had a chance to sew the whole thing up once and for all, and he couldn't let it slip away no matter what the risk to himself might be.

He swung the copter lower, heading for the largest of the open spaces, and as the ground came up to meet him he recognised the tall, slender beings who were gathering below waiting for him. He wondered if Hendrix and the Space Commission had considered the possibility that the Trachonii might be concerned in the Mylon incident. Genetically they were very close to the Mylonians, and their home world, Trachon, was barely twenty light years away. Dawson had not experienced any direct contact with the Trachonii as a race, but he knew that there had been minor diplomatic clashes in the past, when Earth had been forced to take strong action in certain economic matters. He wished that he could remember details, for it was almost certain that they might have a considerable bearing on the situation in which he would very soon find himself.

He put the copter down between the buildings and switched off the engine. From a locker at the side of the tiny cabin he took a small tridicamera and slung it across his chest by a strap that hung round his neck—then he opened the hatch and climbed down to the dusty ground.

Several Trachonii crossed towards him, unhurried, and apparently, unsurprised. From close range he could make out the leathery skin, and the odd, plumed crest of quills that ran back across the centre of the skull. Their appearance showed clearly why the Mylonians were likely to be more friendly to them than they would be to Terrans. To a primitive race like them the Trachonii need only mention 'brotherhood,' and 'co-operation,' make a few promises and urge them to stand up for their rights. Oh, yes, thought Dawson, the Mylonians would fall for a play like that.

He walked away from the copter, and halted before a group of six Trachonii who had approached to within a few yards, and were regarding him without a great deal of interest. How the devil did he begin?

Tentatively, he said, "Good afternoon," without much hope, but there was no response. He sighed and watched as several more Trachonii joined the group. There had been no call for him to take a hypno course of the Trachonii tongue before he left Earth, and it looked very much as if he was going to have to break out the electronic translator.

"I suppose it's too much to hope that one of you buzzards speaks Terran," he remarked gloomily, and was surprised by a thin, rasping, alien chuckle that echoed from the rear of the gathering group.

"On the contrary, Mister Dawson, your hopes will be answered." The voice had the sybillant, hissing intonation of a being with small labial development, and through the crowd pushed a tall, thin, gorgeously attired Trachonii, his large crest bobbing gently as he moved. He stopped a few feet in front of Dawson and bowed in Terran fashion.

"My name is Tyro, and I have lived for many years on your world, Mister Dawson."

Dawson nodded slightly in return. "That's a relief, and I don't need to introduce myself, that's very clear." His surprise at being addressed by name was something that he had trouble in controlling, but control it he did for the very good reason that he didn't want to start off on the wrong foot.

"Your visit was not entirely unexpected."

"The party I left out on the plain, I suppose?"

Tyro nodded. "They radioed to us the fact that you were on your way here. I may say that you would have found great difficulty in getting back through the mountains."

Dawson chuckled drily. "I already guessed that."

"That being so, I am puzzled to know why you have come at all. You must realise that your life is of little value now."

"Do we have to stand out here and talk?" Dawson asked abruptly, ignoring the implied threat.

"Of course not. Forgive me. I have an office close by." Tyro turned and a path opened through the watching crowd. He led the way towards one of the long low buildings, and Dawson followed with two more Trachonii bringing up the rear. Now that he was close to them, Dawson could see that the buildings were of a prefabricated design very similar to some that he'd seen on Terran-occupied encampments where temporary towns and camps had to be erected in a hurry.

Tyro turned and noticed his interest. He chuckled. "You are right, Mister Dawson, these are buildings which we purchased from your race. They have suited our purpose very well."

The office was alien in character, yet there was the indefinable air of human occupancy that Dawson had noticed outside. The furniture was high and narrow, admirably suited to the willowy Trachonii, but uncomfortable for the shorter, bulkier human frame. On the walls were alien pictures—dull violet landscapes which probably brought glimpses of home to the Trachonii.

"Please, Mister Dawson, be seated."

Dawson cast a jaundiced eye at the object which Tyro had indicated, and shook his head. "Thanks, I'll stand."

Tyro smiled thinly and made a similar metallic chair look comfortable as he sank his thin form into it.

"And now, Mister Dawson?"

"I suppose I can assume you're responsible for the deaths of the other Terran agents," Dawson said.

Tyro considered the question, his large, slanted eyes fixed inscrutably on his guest. "Yes," he replied at last. "Yes, I am afraid so. You see, we had to maintain complete secrecy here, and that was the only way we could do it."

"Why?"

"Really, Mister Dawson." Tyro laughed harshly. "A quality I have always admired in your race is the way in which you come so quickly to the subject at hand. Why? We need to get you off this planet so that we can take it over for ourselves. Until your base is closed down and your representatives here have been sent home, officially and legally, we can do nothing. All we can do is to help the Mylonians by providing background and evidence for a request which they will place before the Galactic Council in a short while now."

"And the request will be?"

"That the Council terminates your authority under the Colonisation Treaty."

Dawson laughed ironically. "You'll have a job getting a thing like that to happen."

"Not if Earth violates the Treaty," Tyro replied. "Our campaign is

now far advanced and will be completed with the active help of the Mylonian rulers. Oh, I know", he waved away Dawson's attempt to interrupt, "the Mylonians have to prove exploitation, slavery, ill treatment. Believe me, we know what we are about, and before long so will you."

"Manufactured evidence, is that it?"

"It will mean the death and torture of several thousand Mylonians which is regrettable," admitted Tyro, "and this mining camp will be furnished with evidence of Terran occupation and Mylonian slavery. There will even be a few Terran corpses as additional proof."

Dawson said nothing. He had to admit that the plan was a good one, and if the Trachonii handled it properly they could almost certainly fool any inspection team that the Galactic Council might send in. It would be hard to fool Terrans, but the inspection teams would surely be made up of other aliens some of whom would be glad to get one up on the Terran Empire. Well, he knew how, but . . .

"What's at the back of all this?" he demanded.

"Of course, there has to be a reason," agreed Tyro, "and I must say that your Terran surveyors were very inefficient when they first studied Mylon. Mister Dawson, do you know what—ah—I have to think of the Terran name—it is, I think, pronounced Scantium—is?"

Dawson's head jerked in surprise. "Scantium! Sure, I know what it is," he replied, and into his mind flooded memories which he had tried to recall earlier—the reasons for the past conflict between Earth and Trachon. Scantium was the lightest and strongest pure metal known. Earth would give a great deal to possess a permanent source of it.

"Quite," said Tyro. "And no doubt you are aware that the only known supplies in the Universe are to be found—"

"On Trachon," snapped Dawson.

"Exactly. And if another source were found elsewhere it would mean the end of our monopoly and the collapse of our economy." Tyro looked across at Dawson. "You will appreciate the reasons why we cannot let that happen."

Dawson said nothing. The whole thing was all too clear now that he had the facts. There were other metals—Stellium was one—and some alloys, but there was nothing like Scantium. It was almost into the precious metal class so scarce were supplies. It was a known fact

that the Trachonii operated their monopoly so that the price was kept abnormally high. Any violent fluctuation in the quantities available would be a crippling blow at their economy.

"How did you find out about this when we had failed?" he asked.

"Pure chance coupled with scientific deduction. Our astronomical scientists have been working for many decades on a theory that our parent sun and Beta Eridani—this star—were once a single gaseous giant star. Myriads of aeons ago this giant split in two and became two smaller stars which have slowly drifted apart, each of them capable of maintaining a planetary system which was formed as a result of the fission. This theory was proved mathematically, and among other data that was formulated was the possibility that the make-up of the Mylonian system would be parallel to our own. If that was so—"

"There would be Scantium here as well as on Trachon," ended Dawson.

"Exactly."

There was a long silence while Dawson digested the information. He chuckled to himself as he realised that, indirectly, Martin Gill was responsible for the fact that he'd broken the thing so quickly. If Gill . . . He looked suddenly at Tyro.

"Why did you attack Martin Gill?"

"We had reason to believe that he was the latest Terran agent to be sent here, and we had to get rid of him if we could. We knew that you were here as his—ah—servant, and we knew also of your fame and reputation. Nevertheless, our sources of information told us that Gill was the one to be feared." He looked coldly at Dawson. "It appears we were wrong."

Dawson nodded, laughing as he did so. The very thought of Gill being an intrepid secret agent was almost too much. "Well," he said. "I think you've told me all I wanted to know. Thanks for your help, and we'll try not to be too hard on you over the price of Scantium." He made for the door and found his way blocked by another Trachonii.

"Do you mind asking your boy to move?" he said to Tyro.

The Trachoni shook his narrow head. "I am sorry, Mister Dawson, you are not leaving here. I am afraid that the price for the information we have given you is your life."

Dawson turned back grimly. "One thing you people never learn, Tyro, and that is never to under-estimate your opponents. We Terrans have been under-estimated for centuries by other races—yours included, and still they don't learn. That's why you always come off second best."

The Trachoni looked at him stonily. "I do not understand."

"I'm leaving here unharmed, Tyro," said Dawson, "because you don't dare kill me." He tapped the tridi camera which hung round his neck. "You see this?"

"Yes, I see it." Tyro nodded. "It is a tridi camera. I have one myself as a souvenir of my visit to Earth."

Dawson laughed and shook his head. "Not one like this you haven't. I admit it looks like a camera—perhaps in a way it is. But it's something else as well—it is a miniature video and sound transmitter that works on a tiny power pack. Every word and every move you've made has been transmitted back to the main Terran base, Tyro. Your little game is over before it has started."

The Trachoni's face was blank and expressionless, only the rigidity of his body muscles showed his shocked and stunned incredulity. It was a long time before he relaxed at last.

"So," he nodded. "You are as clever as you are brave, Mister Dawson. As you say, we under-estimated you. But you have merely accelerated our plans. It would be your word against that of the Mylonians and ourselves when the case comes before the Galactic Council. You, too, can be accused of manufacturing evidence."

"I hadn't finished," Dawson told him softly. "When the transmission is received at the Terran base it is boosted and redirected over the interstellar video bands direct to the headquarters of the Galactic Council. I imagine there are a dozen or so Council members of various races sitting in on our little talk at this very moment, and I also imagine that you'll be getting one hell of a blast from Trachon before many hours have passed, because the Council is just about to start climbing all over your government." He chuckled again and shook his head. "You people are way out of your class, Tyro. In future, just stick to things you know something about. And don't tell me I can't walk out of here and fly that copter through the pass back to my base, because if anything happens to me—" He nodded ironically at the Trachoni, "you can guess the consequences."

He crossed to the door, opened it, and stepped outside—and no one moved to stop him.

The great white bulk of the Space Commission building was a much more welcome sight to Johnny Dawson than it had been on a previous occasion, and the blue sky with its brilliant yellow sun was a vast improvement on the alien skies of Mylon.

Hendrix leaned back in his chair and blew a smoke ring towards the ceiling. "Well, we had to have a new approach, Johnny. When you lose five agents it's time to do some hard thinking. We couldn't risk another man on his own, and two working together seemed just as likely to go the same way."

"So?"

"So we came up with an idea. First, we needed a top agent, a good man who had a Galaxy-wide reputation and was as well-known to other races as he was to us. That was you."

Dawson grinned seraphically.

"Then we chose another personality who was equally famous but who couldn't be a secret agent by any stretch of imagination. That was Martin Gill. With that lined up we let it slip out that you were a decoy and that Gill was the real agent—oh, he agreed all right when we told him there'd be no danger."

Dawson laughed outright. "You should have seen him after his cop-ter had been shot up."

"I can imagine. Anyway, it worked out pretty much as we figured. The Trachonii couldn't believe that we'd risk a top man like you without there was something at the back of it. They swallowed the story that Gill was the real agent and they went after him—"

"And gave me an opening." Dawson nodded. "You know, if they'd been a bit more careful in their thinking—"

"They weren't. Knowing you, we figured that you'd only want one chance, and we were right. You did a fine job, Johnny."

"Yes." Dawson didn't seem to be listening, his eyes were far away looking through the wall before him with frowning intensity. "Boss, what would have happened if I'd not taken this job?"

"Eh?" Hendrix gazed at him, surprised.

"I did a bit of thinking on the way back from Mylon. I got to wonder-

ing why my bank got me all the way from Venus on such a small matter."

Hendrix shrugged. "They had their reasons, I guess."

"And I got to wondering why I passed out after only six whiskies."

Hendrix said nothing.

"What would have happened if I'd said 'no'?" Dawson asked softly.

"Why, I suppose we'd have got someone else. Does it matter?"

Dawson grinned. "No, I guess not. I wondered though, because I called in at Police headquarters on my way here. They were very nice and helpful—very informative."

Hendrix face turned a bright purple.

"They told me all the charges had been dropped on direct orders from the Space Commission." He cocked an eye at Hendrix. "Of course, you wouldn't know about that, would you? You wouldn't know just how that mickey finn got into my drink, or how I got mixed up with a drug smuggling charge, and a disorderly conduct charge, and a resisting arrest charge, and a—"

"All right, all right." Hendrix waved a despairing hand. He shook his head. "I doubt if I'd have been able to go through with it, though, Johnny."

"Don't give me that, Hendrix. You'd boil your own grandmother in oil if it suited you." Dawson chuckled. "Not that I haven't enjoyed myself. There's just one thing, though."

The cigar jutted hopefully. "What?"

"It's nice to be back, but—promise me—no more Martin Gills."

LIFETIME OF SATELLITES

THE LIFETIME of earth satellites with highly elliptical orbits can be increased by the influence of the sun and moon.

Scientists at the National Aeronautics and Space Administration's Goddard Space Flight Center have calculated that the perigee height of satellites with highly elliptical orbits can be increased more than half a mile a day for a period of several months by a careful selection of launching conditions.

A satellite with an apogee height of about 28,000 miles and a perigee height of about 4,000 miles, would show an increase in perigee height of six-tenths of a mile a day if it were launched on Feb. 1, 1960.

SPRINKLER SYSTEM

by
E. R. JAMES

Cambridge followed John out of the alien heat into the coolness of the prefab hut. They halted. A middle-aged man with hair prematurely white was watching a sample of some liquid dripping through a series of filters. On a portable stove, a large saucepan puffed up steam as its contents bubbled at a slow boil.

Cambridge made a gagging sound in his throat. John, turning, saw his young companion was becoming an unhealthy greenish white. "What's hit you?"

"Always want to vomit—" Cambridge clapped a hand over his bloodless lips, mumbled incoherently, "It's that stench . . . Oh, dear! See you outside—"

John watched him run out. Then, belatedly, Cambridge's words gave sensitivity to his own sense of smell. Entering the unfamiliar atmosphere of this hut, other impressions had swamped it. Where had he smelt such an odour of charnel houses before? It had been in a cook-house on another planet, when food had been rationed, and they had been cooking bones to extract the fat from the marrow.

The man at the workbench looked away from his apparatus, at the

door left open by Cambridge. His clear blue eyes moved on to glare at John, and his fresh complexioned features twisted in an intensity of fury. "Couldn't you wait? Had you got to come stamping straight in here? How the blazes am I ever to get results if there are always to be interruptions? Get to hell out! I'll be with you when I'm finished."

John, taken aback, retreated out of the door, closing it after him.

Cambridge, still green, eyed him self-consciously. "Sorry . . . but it's some kind of phobia I've got. I ought to have had treatment for it, but it seems such a silly thing to go to a doctor and say some smells make me feel sick."

"It's all right, Fred," said John. He put his thick arm around the thin young man's shoulders and they walked together back towards the helicopter which had brought them. "Most people have some involuntary actions in their make-up. It's probably some sort of defence reflex started off by experiences when you were a kid. I know human beings try to change the laws of evolution to suit themselves, but they can't get away entirely from basic things. Selection of the species and that sort of thing. In nature, if there are two identical animals, but one reacts better to a danger than the other and survives, then it will have learned to go on reacting in that way even though the next time such a reaction may not have any value. Get the idea?"

"I suppose so." Cambridge lighted a cigarette.

They both began to take interest in their surroundings. Except for the bluish tint to the sun high in the sky, they might have been on one of several groups of tropical islands on Earth. Upthrust volcanic cones, mostly extinct, such as the one on which they stood, were fringed around with green vegetation—which, on nearby islands, looked like circlets of emeralds against the shimmer of a shot-silk sea.

Away to the south, smoke and steam made a slanting column into the azure sky, but here all seemed idyllic.

The door of the hut opened and the man came out, looked around, saw them and hurried over. "I'm Peacock," he said. "You'll be the replacements from Base, I suppose."

John nodded.

Peacock suddenly smiled. "Sorry I blew up. But the situation here can't go on like this. I hoped I was getting somewhere. And you inter-

rupted." He held out his hand.

John took it in his own firm grip. "All right. I'm not surprised you're on edge. You've been lucky to have survived here, let alone find out what makes the place tick."

"H'm." Peacock's face creased into a grimace of tiny wrinkles. He shook hands with Cambridge and, introductions over, they sat on the rock.

Cambridge saw him eyeing the smouldering cigarette. "Would you care for one, sir?"

"Don't smoke. Don't approve of it." Peacock pursed his lips. "Bad habit. Interferes with work. Can't stand it."

Cambridge hesitated, and then took a long pull, and exhaled smoke slowly.

Peacock's thin lips parted, but he changed his mind and said nothing. After brooding a moment he turned to John. "What exactly is your position. I've always only had one assistant before. Why two this time?"

"Fred Cambridge here is the replacement. I'm to look around and try to find out what happened to your other assistants."

"I see. Well, Quickly's things have all gone back, and there's no trace of him left there that I can think of." Peacock scratched his chin, the faint stubble on it shining silver in the brilliant sunshine. "Pfaff's things are still in his hut. I haven't had time to pack them up. You could look through them for me and get them ready for the supply copter to take away. And, if you like, I can show you the place on the beach where I imagine he was—I was busy in the lab—when the sea took him."

"How about doing that right now before you get busy again?"

Peacock hesitated. "Well, all right," he agreed reluctantly and started off at once down one of several paths through the coastal undergrowth.

John and Cambridge hurried after. Amongst tangled greenery, just over shoulder high to John, head high to Cambridge and Peacock, the sea breeze, redolent of wide oceans and rich soil, made John take deep breaths. Sweat was beginning to drip from them when Cambridge, bringing up the rear, suddenly gasped.

"You all right, kid? asked John.

Cambridge stepped on his cigarette, half smoked on the path in front of him. "Burnt myself." Forgot the confounded thing."

Peacock halted on the edge of a narrow beach. "About twenty feet along there."

John passed him and continued along. "This the place?"

"Yes." Peacock hung back instead of following.

Bits of undergrowth and other debris littered the beach for some distance on either side of John. Inland such foliage that still stood was curiously tinged with white rime. Over a considerable area it was beaten right to the ground and in some places scoured out by the roots.

John picked a leaf from a surviving shrub, tested it against his tongue. "Salt."

"The only thing I found," Peacock said nervously, "was Pfaff's oxygen breathing equipment, right on the water's edge, half buried."

"Oxygen equipment? Do you mean he went skin diving? I didn't think he was that sort of man."

Peacock looked irritated. "Oh, he was an old fool in many ways. He never told me why he sent for the frogman stuff, if that's what you're getting at."

John poked around in the bedraggled undergrowth. A harpoon gun glinted and he picked it up. Loaded but not fired, he noted.

"What was Pfaff doing here on the beach, anyway?"

"I tell you, I've no idea. Nor do I care, Mr. Fyfe. He lived his life and I lived mine." Peacock reached up into a springy bush and pried loose a curved briar pipe. "Maybe he came here to smoke this horrible thing of his without annoying me." He passed the pipe to John. "Well, have you seen enough for now? I'm sure we could all do with refreshment. Then back to work."

"We'll go back then," nodded John. The pipe seemed somehow to bring home the disappearance of a human being, lost while doing a job of research on a planet far from Earth.

The living hut's bare walls were adorned with landscapes of the island and sea around it. "I did them," said Peacock, and thawed visibly at their appreciation of his artistry. "Haven't time for it recently. You see, what I'm doing is so important. This plant we're studying could be very valuable to Earth. But the special properties it has when grown here, are lost if it is planted anywhere else, and the original settlers of the planet won't live on these islands to farm it. It seems they got a bit primitive in outlook during the war, owing to the isolation I suppose,

and reverted to a sort of taboo of these places—although they stayed sane enough in other ways.” His chin, stubble bedewed with sweat, rested against the collar of his bush shirt. “And it does look as though there is something here . . .”

After the meal, Cambridge went off with Peacock—grimacing at John as though to say, hope he doesn’t brew any more bones. And John went into the quarters left vacant by the disappearance of Pfaff.

Beside the camp bed, a little table held an alarm clock, stopped at five o’clock, an ash tray and a framed photograph in colour of a middle-aged woman and two boys, evidently Pfaff’s wife and family.

Another harpoon gun leaned in a corner of the little room. An aqua-lung shone gleams on its compressed air cylinders as the slanting sunlight touched it from the windows. Flippers peeped out from amongst a pile of sandals and light shoes in another corner. A pile of magazines, a shelf of text books, a polythene wardrobe, and a rack of assorted pipes completed the first impressions of the man John had never met, but whose disappearance—and presumed death—had brought him out here to investigate.

Under the bed, adjacent to the hands of anyone lying down, were bottles and a glass, and many tins of tobacco. Pfaff had enjoyed his quiet times here, by the look of things. The suitcase under the foot of the bed held other personal things, but nothing which seemed to improve John’s picture of the man.

John tidied things up and, seeing the laboratory hut lights on, and not wishing to interrupt in there, moved his own few personal things in, and then went into the cookhouse and made himself a meal before turning in.

A tap on the door came after darkness closed with a whispery silence over the island. Cambridge came in, looking worn out and fed up. “That man’s a slave driver. And he’s got a phobia about smoking which beats me with my smell reaction.”

“Humour him,” suggested John, sitting up in bed. “Remember his reputation as a sound researcher. On a job like this the man who gets the most information is the one most likely to come up with the right answer. This plant could be very valuable to Earth, but the secretions it gives are small and we’ve got to find out how to mass-farm the stuff.

That means we've got to find out what's so special about these coastal belts so we can make the same conditions elsewhere."

Cambridge lit a cigarette. "First one since that with you."

"Cheer up," said John. "What have you been doing in that lab anyway?"

"Soil analysis. He's been dissecting plants all the time I've been boiling the dirt and making the trace element tests. When I'd done, he just said, 'Not bad. Same as my own analysis six months ago,' and I gathered he'd just been testing me as a botanist. A most irritating man."

"And your orders for tomorrow?"

"We're going collecting specimens. He thinks the plant we're concerned with lives in symbiosis with some other plant, or perhaps with some small animal."

"I'll try to tag along with you, then," said John.

The alarm clock woke him at sunrise, but he was only just in time to see Peacock go striding off, with Cambridge, dragging his feet and rubbing his eyes, close behind. Peacock looked at John indifferently, and did not even answer his 'good morning.' They made a strange procession down into the lush undergrowth.

John, however, soon began to enjoy the invigorating cool new morning. When Peacock began digging up specimens of a small plant like a dwarf marrow, he watched carefully, but knew better than to speak.

Peacock kept glancing up at the glorious sunrise. Its beauty seemed to melt his habitual irritation. "Wonderful, wonderful," he murmured, his eyes shining with the appreciation of the artist, silvery hair rumpling under his dirt-flecked hand. ". . . only man is vile . . ." he muttered. He jabbed the trowel under another little marrow plant. "Come out my beauty. You're going to flower with just one of your companions in this dirt. Perhaps you'll be the one to tell us the secret of your difference."

John helped carry the bag of little marrow plants while the two other men collected specimens of as many other species as they could. He followed them, when all three were laden, to where lines of cloches already held little marrow plants paired off with other labelled specimens.

"Slow work this," said Cambridge to John. "Might take years—even though the seasons on this part of the planet are practically non-existent."

"Stop talking, Fred!" snapped Peacock. "How can I work while you're distracting me."

"My kingdom for a cigarette," whispered Cambridge in John's ear.

Peacock made a tut-tutting sound. "Confound this stuff." He stood in front of a clump of something like reddish brown grass perhaps rushes, and glared down at it.

John went closer, stepping over the cloches. He risked a question. "What is it?"

"I don't know. I simply don't know. It's like an animal growing in the ground." Peacock turned agonised eyes to stare with a wild appeal at John. "Yesterday morning I dug this stuff out to four feet down. Where its roots finish, I don't know. You found me boiling it. To all intents and purposes it is some kind of animal cell, rather like hair, or bone or fingernails. That's the best description I can give it. It grows here and there all over the place, up to about five feet high. It never flowers; it replaces itself, growing up to its original size and shape if disturbed or damaged—like I disturbed this one." Peacock halted, glowing, as though realising he had confessed ignorance to a layman. "Go look around," he suggested harshly. "You'll soon find specimens to examine for yourself." His tone became tinged with sarcasm. "Perhaps you'll find out something about it I've missed."

"All right," said John as evenly as he could. "I will."

He headed for the beach. About twenty paces from the place he had left Peacock, just beyond the edge of the cultivated section, he halted in front of a clump of fibrous reddish brown stalks, or filaments which grew to a height almost level with his eyes. Smaller filaments or very fine hairs streamed away from the tips of the stalks, moving like gossamer in the sea breeze. Something about the curious sight made his skin crawl.

He skirted around it. About twenty-five paces along the winding path through the thick vegetation he saw more reddish brown amongst the green, and stopped again, frowning and his skin pricking as before.

It was, as far as he could tell, identical with the first object. He was far enough puzzled to mutter to himself. "Wonder why Peacock hasn't grown this with his laboratory plant."

He stood, deep in thought, or rather with his mind a blank before

the unknown and waiting for an impression to reach it. At length he moved on. Thirty-one paces along the winding path he found another clump of tall filaments.

He stared at it. Then continued. Twenty-four paces along the inevitably winding path, there was yet another clump. He scratched his chin.

He sniffed. The sea breeze was very strong here. Salt and drying shingle and sea plants and creatures, all added their odours to the delicious tang which was redolent of the coastlines on any Earth type planet. It made him think of drying nets and seagulls and fish for breakfast . . .

"Confound that man. He got me out before I had eaten." John grinned to himself.

He returned to the huts, made and ate a breakfast as the sun climbed higher in the sky. He was going out again when the sight of the lab hut halted him. Returning inside the cookhouse, he cut sandwiches and then took them to the others.

"Huh," said Peacock absently, eating automatically as he continued some delicate work with a fibrous leaf from one of the morning's collection of plants. Cambridge's young face, however, seemed to lose some of its appearance of strain as he drank coffee from a thermos and bolted bacon sandwiches.

"Never tasted anything better in my life," he said.

John grinned. He had never considered himself as a cook. Cambridge winked. "I could smell you cooking, and even old Peacock looked up and wrinkled his nose once or twice long before you arrived," he whispered.

Peacock's blue eyes glared at them. "Thank you for the food. Er—very welcome. But you're delaying us now," he ended with pointed sharpness.

John nodded. Outside, he headed straight for the helicopter. Settling in the cabin, he fed fuel to the little jets in the rotor arms, ignited it. Smoke trailed away in the breeze as he rose swiftly to a few hundred feet. Shifting into the wind he held the aircraft steady as he could over the lush coastal belt while he looked down through binoculars. He got out a camera with telescopic lens and took several shots.

Some commotion on the other side of the island caught his eye. A great mass of spray was settling, after having been apparently flung up in a great wave over the low coast belt. Drifting with the wind, he slid

the craft towards the spot, and dropped it to within a few yards of the water rushing back into the foaming sea over the same kind of shingle beach as on the other side of the island.

As the water drained off, he landed the machine. His heart beat a little faster, but nothing happened. He got out and walked into the undergrowth. Fish flopped and gasped amongst the bruised and flattened bushes and plants. Small creatures of amphibious habits scurried from his feet, dragging pieces of stranded fish with them. Some debris had been carried out into the quietening sea and drifted off in the gentle breeze striking over the quiet land.

John returned to the copter, lifting it and taking photographs of the part of the curving coast land. The film roll used up, he set the machine to print it, and studied the coloured pictures.

"Look how evenly spaced the brown stuff is over the whole of the coast land," he told the others when he took their dinner and showed them the photos at the same time.

Peacock pored over them. "You've got something here," he had the grace to say, and the next instant scowled at Cambridge who was feeling automatically for cigarettes. "Not in here! How many times must I tell you."

Cambridge compressed his lips and followed John out to light up outside with evident satisfaction. "That man thinks of nothing but his work—except those pictures of his, I suppose." He looked uneasily about them and at the closed door of the laboratory hut behind. "You don't think that . . . he could have done Pfaff and the other man in? He's always going on about the way they smoked and drank and such-like as though he was threatening me with the same fate. He is a bit unbalanced, isn't he?"

John frowned. "I've been here about twenty four hours and this place gives me the willies. He's been working here half a year—in my book that entitles him to be a bit odd."

"You're right there," agreed Cambridge. "But, anyway, he knows this job and I'm getting interested in what he's doing, so I doubt if he's thinking of . . ."

Peacock's pink face came irritably around the door edge. "Are you going to be all day out there?"

"Coming." Cambridge shrugged at John.

Left alone, John collected Pfaff's frogman gear from the living hut. He scribbled a note.

Dear Fred,

The last we know of Pfaff is that he seems to have gone skin diving. I'm going to try just that in the same place as he did. Pfaff seems to have been an amateur as well as middle-aged. I've done a lot of skin diving on Earth and other planets too, and I'm not much more than half his age. I should be back to remove this note before you get away from Peacock to have your next meal.

Good luck!

John.

Just clear of the huts, he paused to look back. Strictly utility structures against a background of almost barren rock, they had nevertheless assumed some of the attractions of home even during the few days he had spent here. He took a deep breath, settled harpoon gun and flippers more comfortably over his shoulder and started downwards.

From slope of rock to fairly level soil just above sea level the sudden transition struck him as never before. He glimpsed a tuft of brownish-red just above the general level of green foliage. He strode along the path to the beach.

He took off his clothes and made a tiny heap of them on the dry shingle. In underpants only, he walked a little way first one way and then the other along the beach on either side of the place where they had found Pfaff's pipe, looking back each time and trying to imagine what Pfaff had done.

He put on the flippers and mask and swung the oxygen cylinders on to his back. With the breather in his mouth, he splashed out into the clear water, realised that in his excitement he had forgotten the harpoon gun, went back for it, and ran with it out to sea until, suddenly, the shingle ended and he sank into the warm, refreshing water. It closed over his head, clear greeny blue, shutting out the blistering heat of the noon sun.

He turned down into the flickering depths. About twenty feet below he swung his feet down on to a kind of shelf, so puzzlingly rubbery to his flipper soles as he stood looking around, that he bent down and touched it.

His blood ran cold and his heart began to pound. Surely this was the hide of something alive? He allowed himself to rise a few feet above the unexpected surface, and saw that it reached, flat and unmarked except for only a few bits of ocean debris, as far as he could see, and, in the flicker from the surface, it seemed to move with pulsating motion.

His hand clutched the harpoon gun tightly as he began to swim further out to sea. The edge of the strange surface showed through the green. Fish and floating weed and small sea things darted or hung or drifted over the edge, taking little notice of him as he swam cautiously out over the dark chasm of deep water. The chill of the depths struck up at him and he turned to peer down.

A gentle current drew him down into the shadowy reaches beneath the shelf over which he had swum. The shelf's apparent movement over his head quickened and he began to use his flippers to control his descent.

The gloom closed in around him. The edge of the shelf outlined against the flickering surface of the ocean, receded behind. Fish made flashes of reflected light around him as they turned and darted hither and thither, unafraid of the current.

A shadow loomed up through the deepening murk, huge and terrifying in that alien place, so that he swung the harpoon gun into defensive readiness.

The shadow was a honeycomb of mouths and it was into these that the water was being drawn. Reassured by the realisation that none of these openings was big enough to engulf him, he dived deeper, plumbing the extent to which this living wall reached below the surface.

And suddenly the flow of water changed, pushing him instead of pulling so that he went drifting away in the direction which he had been thrusting with his flippers.

Ghostly shapes of deep water weed moved around him in the emerald gloom, agitated with the current going away from the island. His feet brushed against the slick of ooze and his flippers cast up a trail of mud particles like rocket smoke.

The taste of the place, rank and putrid, found its way into his mouth. Scaly creatures and worms touched his shuddering skin with their cold bodies and he fought free of the soft grip of the mud and thrust wildly

upwards with the current and did not stop until he broke surface.

Still shaken, he swam inshore and scrambled to his feet on the familiar shingle under the sun. Heat closed in around him and he began to steam almost at once. Slipping out of the harness in order to move more freely, he dumped it just clear of the water and ran, staggering a little, up the beach into the shadow of the bushes.

He sank down gracefully, and relaxed with his back against the thick undergrowth. He shook the water clear of his eyes and wiped it from his face.

The neat pile of his scanty tropical clothes stood where he had left it, only a few feet from his wet trail across the pebbles. He frowned. Pfaff must have sought the shade, just as he had done. Pfaff, however, would have gone out for that pipe of his in a pocket of those clothes. John scratched his chin.

The prevailing wind from the sea, warm and gentle, dried him as he relaxed there.

He stood up and dressed. Hoisting his frogman equipment on to his shoulder, he set off back along one of the paths. He dropped the gear outside his hut and headed for the lab.

Peacock looked around sharply and seemed about to say something even more sharp; then wrinkled his nose. His eyes widened in fear. "You've . . . been in the sea?"

"Yes. Where's Cambridge?"

"Cambridge?" Peacock made an obvious effort and pulled himself together. He brushed back his white hair from his eyes. "That smell of brine on you upsets me. Sorry. I suppose it's because the sea or something in it has taken two of my assistants . . . What did you ask me?"

"Where's Cambridge?" John almost shouted the query.

Peacock bit his lip. "What happened, now. Oh yes, he said he wanted a drink . . . Where are you going?"

John was half out of the door, running for the cookhouse. He halted just inside, staring an instant at the table where he had left the note.

He turned in frantic haste.

Peacock was coming hurriedly out of the lab. "What's happening?"

"Cambridge—when did he leave you?"

"Not long—a few minutes ago I think."

"Pray we're in time!" John hared down towards the undergrowth. Peacock shouted something and then his footfalls were ringing over the rock in pursuit. John thrust through a bush and sprinted along the winding path in front of him. He hurdled cloches that came shining into his way, pelted on at full tilt. Peacock was shouting something behind him.

And suddenly the coastline directly ahead seemed to rise up in a wall of sparkling water which was flung inshore to crash like a giant bomb explosion down on the undergrowth. Splashes from the deluge leapt up and came hurtling through the bushes. John halted dead, shoulders bent and chest heaving from his exertions.

The huge mass of water which had been thrown inland spread out through the undergrowth and gurgled and sucked almost to their feet before rushing back into the sea.

"Cambridge?" asked Peacock between gasping pants from behind.

John nodded. "He'll have gone down to the beach to wait for me to come up from the sea. He'll have sat down and lighted a cigarette to while away the time and that killed him."

"I don't understand . . ." gasped Peacock.

John breathed deeply. "I don't altogether. But it happens . . . as you saw this time."

They stood looking at each other, and then John turned and walked quickly in the wake of the retreating water. He halted, listening.

Other feet, ahead of him, were squelching through the saturated ground. Cambridge, drenched to the skin, came around a curve in the path. "Fred! By God, I'm glad to see you. I thought you'd been washed out and sucked down by the thing in the water."

John grabbed Cambridge's arms, and Cambridge grinned rather foolishly. "I thought I was a gonner too."

They stood grinning at each other.

"What did happen?" asked John. "Tell us right from the time you left Peacock in the lab. It's important."

"Eh? Oh, I went into the cookhouse for a drink, and found your note. It worried me, you know."

"I didn't think you'd find it until meal time at the earliest."

"Well I did find it and it scared me. I didn't go back to the lab. I

thought Mr. Peacock would scoff at me because I was worried. I went straight out of the hut and down to the beach where Pfaff had disappeared. I thought I could see wet marks in amongst the pebbles and sat down in the shade to wait."

"And you lit a cigarette?"

"That's right. How did you guess?"

"Go on!"

"Well—" Cambridge looked shamefaced. "I was worried about you and I forgot to smoke and burnt my fingers and dropped the cigarette. It went down in the undergrowth and although I could see the smoke coming out from the mess of sticks and things, I couldn't find it. It tantalised me. I tried to find another one in my pockets but they were all up here. I told myself that you would be all right, and started up here to get a fresh packet, when the sea seemed to come after me and knocked me flat, washed me inshore and then very nearly drained me off with it into the ocean."

John chuckled. He laughed. "You and your peculiarities—" He frowned. He looked over Cambridge's head to where, on the horizon a column of smoke and steam slanted into the sky. "Incredible. But . . . Yes, it must be." He swallowed hard. "We're looking at this thing in the light of our experiences. This is a strange planet, with unfamiliar life forms. We never thought that we might be standing on dirt accumulated on top of a kind of primitive, although gigantic animal which attaches itself around the islands in this tropical ocean."

"Huh? said Cambridge and Peacock as though with one voice.

John smiled at them. He was feeling rather light-headed. Reaction, no doubt. "It eats plankton just like the whale, the largest mammal back on Earth. It doesn't move, because it doesn't need to. But its habit of growing up around islands like this does give it need for one single sense. The islands are all volcanic. A lot of them are quite extinct now, but they must have all thrown out a lot of hot stuff in the past. These monsters, like this one of ours, had to have a sort of fire alarm system. That's provided by the reddish-brown clumps—which are primitive and outsize olfactory nerve-ends unless I am very much mistaken—"

"Like the scent organs in our own noses!" Peacock was getting excited now.

"That's right." John had got things sorted out in his mind now.

"Smoke triggers off a mindless, defensive reflex in a sort of skirt over the creature's back. The skirt heaves up enough sea water on to the land to put out any blaze which might hurt the animal. It's easy to see how evolution might have selected those of its kind able to scent the smallest quantity of smoke and to throw up the largest volume of water."

"And, although the reflex is no longer required around this extinct volcano," Cambridge said eagerly, "it has survived as an essential part of the creature." He opened his eyes very wide and shook his head. "What a monster it is."

John nodded. "Too big for us to think of straight away," he said soberly, and turned back towards the huts.

They all glanced down every now and then at the dirt, and put their feet down rather gently.

"The presence of the animal beneath the soil must be the missing ingredient for our plant," said Peacock as they reached the huts. "Excuse me." He headed for the lab.

John and Cambridge looked at each other, and John made a motion as though tilting a glass. They went off the other way towards the hut Pfaff had occupied.

SCHOOL FOR SPACE SCIENTISTS

Space age school bells were ringing for some 400 leading military and civilian scientists invited to attend a new course at the USAF Aerospace Medical Center at Brooks AFB in Texas, recently. The scientists were to hear a five day series of lectures designed to bring them up to date on recent advances in space medicine. Among the subjects to be covered by leaders in their respective fields were: living in a space environment; radiation in space; propulsion systems; space flight dynamics; liveable space cabins; the selection and training of space crews, and lunar colonies.

The series of talks was entitled "Lectures in Aerospace Medicine." It was the first of its kind, according to Maj. Alfred R. Stumpe, M.D., Director of Education and Plans at the Center's School of Aviation Medicine.

Among those invited were scientists and physicians from the Air Force, Army, Navy, National Aeronautics and Space Administration, Federal Aviation Agency, State Department, NATO, SEATO, Pan-American nations, the Aerospace Medical Association, and the Medical Education for National Defense group.

continuity by GEORGE LONGDON man

The inter-galactic ship *Styria* sped like a silver mote amid the scattered suns beyond Capella. Great nebula had dawned ahead, drifted past her ports as fiery gold, and faded into oblivion behind. Old, the *Styria* was roughened by her long voyage through cosmic dust, and by the impact of uncounted sand-grain meteorites. But now directive equipment on her bow responded to a spectrum it was designed to receive, and an infinitesimal adjustment was made to her course. After three hundred years she was nearing journey's end.

Tony pressed his slightly upturned nose against the port, gazing at the stars. As days and nights passed, marked by the automatic lighting of the ship, the constellations had slowly changed, and he never ceased to marvel at them, or at the fiery and remote suns that grew and waned.

A light step came in the playroom behind him. A little girl, dragging a battered golliwog on a frayed string, halted near him.

"I've promised Helen I won't do it again, ever," she said emotionally. Tony nodded. "That's good, Suzy. It was wrong."

"But you've felt the same yourself, Tony!" Suzy pointed out quickly. Her round, clear blue eyes were accusing. Freckled, barely twelve,

she had a way of digging home her points with disconcerting directness, Tony knew. Though three years older, and a boy, he realised he could not expect to win an argument on this point.

"Maybe I did," he admitted grudgingly. "But that don't mean I'd really do it."

They stared at each other, silent but understanding. The faded blue garments made their faces seem pale, but both were strong limbed, if bony. Suzy swung the battered doll by its string, whirled it faster and faster round her head, then released it. It struck the steel wall and fell, grotesque legs extended.

"That's the last golliwog," Tony said severely. "Douglas told me there weren't any more."

Suzy laughed. The sound was brittle, too loud in the confined space.

"Let's—let's put it down *there*—" she suggested.

He felt shocked. *There* was a place they never named a—*hole* from which nothing returned. A place of dread.

"Our foster-parents will be angry," he objected.

She noted the tone. "You're afraid!" Her freckled nose wrinkled in disdain. "Well, I'm not! I'll put it down myself, if you don't come. I don't want it any more, so why shouldn't I?"

He had to admit there was logic in her words. They went out, squeezing past the door which now never opened properly, and along a narrow corridor where they knew every nut, brace, and hiding corner. At the end was a door with a big black handle and they hesitated. Suzy looked pale under her freckles, her small, round face screwed up. Tony squared his shoulders. He was growing fast and felt he must give the lead to prove he was not afraid.

The door opened at his touch. Near the end of the small room, at floor level, was a round hole two feet across. It was dark down inside, and no amount of fearful peering ever let him discover where it led.

"Goodbye golly," she cried, and tossed it into the hole. A momentary rumble as of ravening fires reached their ears, far in the distance, then silence.

Tony stared at the hole, fascinated. It was down *there* that he had thrown all the broken cups and plates, after he had fought with Douglas four or five years ago, tearing everything from the breakfast table, and

dancing on it furiously. Longer ago, almost forgotten, was a day when foster-mother Helen had told him that he would not be seeing his real mother any more. Then solemnly, a long wrapped package had been slid down *there*. Tony had screamed and kicked, somehow feeling the hole was stealing away for ever a thing he valued, but not fully understanding.

Suzy took a piece of sticky, highly coloured gum from a pocket of her pinafore, and offered it.

"Don't look so miserable. Golly wasn't much good. Have some?"

He shook his head. The sweets Douglas and Helen made didn't taste nice. He wondered if they ever tried them before giving out the ration, then remembered they wouldn't. If they did, they would have a mighty funny idea of what sweets should be like!

"You shouldn't have said you—you'd jump down *there*, Suzy," he decided. The hole was like a bottomless pit, and nothing ever came out again. "That was wrong, even to frighten Douglas or Helen."

She looked rebellious. "Well, it worked. Didn't they give me more sweets?" She stuck a piece in her mouth, dribbling pink. "Not that I'm certain sure I didn't mean it a tiny bit. About jumping, that is."

He turned her away and pushed her from the room, closing the door at their backs, feeling anxious. It would be so easy to slip down the hole, or to jump down on impulse, to see what happened.

She stuffed more gum in her mouth. For the moment she was happy. She wiped her stubby fingers on her pinafore, leaving pink marks.

"You'll be sick," Tony said soberly.

She laughed at him, putting out a tongue red as a strawberry. "Who was sick last time from too many sweets?"

He shrugged, tired, not bothering to deny it. "So would you have been, if you'd eaten any. Then afterwards Douglas asked me if it tasted nasty!" He felt scornful.

"They *do* make rotten sweets," Suzy admitted. She tried to swing on her heel like a ballerina, bumped the steel wall, and stopped. "Let's go down where the forest was."

He nodded. "If you like."

They walked slowly. Tony knew that if Douglas or Helen saw them going to the forest, there would be trouble. He had never been a manageable boy, and the outburst with Douglas over breakfast had been

only one of many. But he had learnt that he never won, and had adopted the attitude that it was silly to fight when you knew you'd be beaten.

"Aren't you just absolutely sick of always having Helen and Douglas hanging about, telling you what to do?" he said morosely as they began to descend a metal stairway. He halted at the bottom, watching Suzy come down. For a moment an adult, sad wisdom put lines and angles to his boyish face.

"S'pose I am," she said, her tone showing she was not really thinking about it. "But they get our food, and do things for us. I suppose that's what foster-parents are for!"

"We could do things for ourselves."

"But then we wouldn't have time to play."

He started off down a corridor that was only dimly lit. "Who wants to play all the time? It's stale."

"Playing is fun."

He snorted. "Doing things worth while is more fun, I'd say!"

She did not reply, but ran on ahead. She was at the end of the corridor, with a big door open, when he reached her. A smell quite unlike anything elsewhere in the ship drifted out.

Suzy wrinkled up her nose. "It smells. But let's go in."

They closed the door behind them. The forest seemed even worse than Tony remembered it. Dim lights, high overhead, showed a tangled mass of plants, oozing out of tanks, slopping over the floor, climbing over each other, and growing out of decayed masses of leaves. In some way a trailing plant had reached the cable of an overhead light, and festoons of pale green leaves, spotted with mould and disease, hung like curtains.

"It stinks!" Suzy said disgustedly. "And it doesn't look a bit like the forest pictures in the books."

They walked in a little way. Slushy, rotten vegetation was ankle deep. In places great heaps of it had reared up towards the lights and sprinklers. Suzy held up her skirt, wading where the mess was knee deep. She pulled a long, trailing stem, and a tottery mound of blighted, sickly green half as high as the room began to tilt.

"You'll get dirty, then Helen will know you've been here," Tony said warningly.

She put gum in her mouth, leaving a smear of green on a cheek.

"Let's push Helen and Douglas down—*there*," she suggested.

He opened his lips to object, saw she was joking, and let it pass. He did not feel like playing. The forest was merely nasty, now, and the smell nauseated him.

"There were more people than just four, in the picture books," Suzy said. She had grown tired of the forest, and stood regarding it with her face screwed up. "There's only me and you, and Douglas and Helen. It—it's lonely, sometimes—"

Tears stood in her eyes. Tony put an arm round her shoulders awkwardly. They squatted amid the rotten plants, her head on his chest, tears coming thickly, red and green from her cheek on his faded blue shirt.

"There—aren't any more people, Suzy," he said gently. "At least not here. Only you and me, and our foster-parents."

She burrowed her small golden head into his shirt. "You—you'll stay with me—"

"Of course I will."

After a little she grew quiet. She moved her head, nestling an ear on his chest.

"Funny thing," she said, "when Helen nursed me I didn't hear her heart beating like I can hear yours."

He did not feel interested. It seemed silly to be squatting with Suzy's head on his chest, and he rose awkwardly, pushing her away.

"If you don't wash your face, they'll know."

He felt completely depressed. The forest stank. It wasn't fun. There wasn't any fun, any more. He would have howled, quite suddenly, without knowing why, if Suzy had not been watching him. She wiped her face with the end of her pinafore.

"Let's go, Tony."

Something in her tone said she would never want to come to see the forest again. It had been the same with other things, he thought unhappily. The toys were gone. Douglas and Helen made rotten sweets. There was no one else to talk to and nothing to do. It was enough to make a fellow sick to death.

"I hate it!" he declared suddenly. "I hate it—hate it!"

Suzy stopped, turning. "You—you won't jump down *there*?" It was a cry of anguish. "I couldn't stand it, with only Douglas and Helen!"

He stared at her, saw her need. His spirit shrank, receding into some remote corner where hope and joy had no place. Yet he could not desert Suzy. She tugged his arm, pleading.

"Promise, Tony! Promise!"

"I promise," he said heavily.

They walked soberly along the dimly lit corridor, and began to ascend the stairs. They weren't going anywhere, he thought in utter misery. There was nowhere to go. They were simply going away from the forest, because it stank and wasn't fun any more. As he walked tears welled slowly in to his eyes. He hated two things above anything. The loneliness. And having Douglas and Helen always watching, always telling them what to do. It was virtually impossible to eat, drink, go to bed or get up, without one of the pair interfering.

Through complex instruments Douglas studied the spectrum of the sun Antaria, comparing the lines with those on an illuminated slide incorporated in the equipment. This was the right sun, and therefore the Earth-type planet, revealed hundreds of years before by the Effermann Test, must soon be within reach of the apparatus. In less than six months the *Styria* would reach the planet. A further month would be spent in reducing orbit, then the auto-pilot could set the ship down.

Satisfied, he turned off the equipment and left the control room. He had the easy step and features of a young man of thirty. Of moderate height, he did not need to stoop as he passed into a dimly lit corridor, and went from there to the dormitory.

It was a long room, but only at opposite ends were occupied beds. A graceful figure of about his own age was bending over the nearer bed, her corn-coloured hair hanging in thick curls around her cheeks. She straightened at his step, putting a finger to her lips.

"Suzy is asleep," she whispered.

They moved on down the long dormitory, halting half way under a subdued light.

"She was sick again," Helen said. "It was probably the gum. But she doesn't seem well."

Douglas nodded. "You know another seven months will see us landed?"

"Yes. When shall you tell Tony and Suzy?"

"Tomorrow."

They went slowly to the end of the Dormitory. Tony was restless, murmuring in his sleep and moving uneasily. He flung out an arm, but his eyes were closed. They watched him for a short time, then left the dormitory.

"It's been trying for the pair of them," Douglas said. They've only each other to play with, and us." He drew in his cheeks, suggesting cogitation. "They seem to resent us, lately. Tony was always a bit difficult and self-willed. It's still there, though he doesn't show it so much."

She closed the door, giving a last look through its round glass window. "I know. Suzy isn't easy to deal with, either. They both have these moods. They're nervy, troubled."

He nodded soberly. "When we've lauded it should be better. There'll be lots to do, then."

They went into the large recreation room. Helen indicated a book.

"I've been looking for more sweet recipes. It's difficult, though, with only the synthetic sugar, flavouring and colour."

"I know."

He left her, going on into the compact, neatly ordered library. There, he settled down to read up on childhood illnesses, physical, nervous and mental, and their symptoms. It was difficult to be a specialist in all subjects, he thought. According to the log, over thirty years had passed since the last trained doctor aboard had died. There had been no replacement.

The lists were long, and though he was a quick reader, with a retentive memory, it took hours before he was satisfied that he could not classify the malady. Numerous illnesses, characterised by raised temperature and other specified and obvious symptoms, he dismissed at once, skipping the detailed explanations. When he put the books away the wall clock showed that it was only two hours to the dawn lighting up of the ship.

Tony and Suzy did not come into the breakfast room until several minutes after the gong had sounded. When Douglas saw their faces, he knew a troublesome day was ahead.

"It's better to be on time," he said in mild reproof.

Tony sat down and Suzy followed slowly. Both gazed with unconcealed distaste at their plates, piled high with a synthetic food shaped like roasted wheat. Helen poured synthetic milk from a jug, smiling.

"Eat it up quickly!" she said cheerily.

Suzy stirred the food with her spoon, then looked at them, eyes unnaturally bright.

"Why?" she pulled a face. "I *hate* it!"

"But it's good for you," Helen explained, patient but worried.

Tony's lips twitched. His face was pale, with hot spots on the cheeks.

"You're always telling us what to do, aren't you?" he stated nastily.

Helen sighed, and Douglas moved closer to the table. "We like to help you."

"Your way of helping is never to leave us alone!" Tony objected, and his voice cracked on the last word. "We have to do this, do that." He began to mimic Douglas. "Don't go in the forest, it's unhealthy. Don't touch this or that. Don't stay up reading, it strains your eyes." His voice rose. Abruptly he lifted the plate, turned it over, and dumped it on the table. Synthetic milk swam in a puddle, dribbling to the floor.

He jumped up, overturning his seat. "I'm sick of it! Suzy is sick of it too! It's boring—*boring*—to be told what to do from morning to night! And when I'm in bed, you come and stand over me. I'm sick of you, and your filthy sweets, and this rotten, stinking ship!"

Tears of frustration, anger and misery streamed down his cheeks. Suzy let out a wail, and stood up, spilling the synthetic food. She stamped a foot.

"Go on telling them, Tony!" she urged. "Tell them how I threw golly down *there*! He was rotten, too. There's nothing any good any more. It's all gone, all used—"

She sank in a crumpled heap, wailing, face hidden and her hair hanging over her hands. Tony ran to her, putting a hand on her shoulder.

"She means it—and I mean it, too!" he declared fiercely. "I'm sick to death of this stinking place! I loathe and hate it, and everything in it." He drew a deep breath. "Most of all I hate you, the pair of you! Following us, watching us, telling us what to do!" He sought for words. "Don't you see—we want to do things for ourselves! We've got to! If we don't, we'll die!"

Douglas had been frozen with unease. He had not realised things

were as bad as this.

"We do the best for you we can," he said carefully. "If you want to do new things, perhaps we can arrange that."

"*Arrange it!*" Tony raised a fist. "Don't you see? That's the trouble. You arrange everything." He stared at Douglas, panting. "Oh! You don't understand. You're killing us by doing everything, arranging everything, and yet you don't understand!"

He pulled Suzy to her feet and dragged her towards the door. Douglas made a gesture indicating helplessness.

"In time there'll be lots more things for you to do," he said. "New things." He debated whether he should explain how the *Styria* would soon land. Perhaps this was not the best moment, he thought. Tony and Suzy were too excited already. "Later we'll see there are interesting things for you to do," he finished lamely.

Tony paused at the door, baring his teeth like an animal. "You won't *arrange* interesting things for *me* to do!" he stated hotly. "I'm tired to death of it all! So is Suzy. We're through, finished with it all!"

He banged through the door, Suzy after him. The sound of their running feet receded down the corridor.

"I—I think it's best to leave them a while to grow calm," Helen suggested. "Suzy will make herself sick again, if we argue."

Douglas halted, hand on the door. "Perhaps you're right."

Two hours passed. Tony and Suzy did not return. Douglas spent part of the time re-reading about mental stresses, but did not get far. Helen left him, and for a long time he sat in silence, pondering what he had learnt. From the scene at breakfast, it was clear the two were in a very nervy state. He hoped it was not so bad that they would do themselves an injury. He also wished that there was someone of greater experience, whose advice he could seek. But the *Styria* carried only Helen, himself, Tony and Suzy, now.

Running steps broke in on his thoughts. The door burst open. Helen held it, eyes wide and hair disordered.

"Come to—to the disposal room!" she whispered.

He ran, leaving her behind, and unfastened the sprung door. Two small, neat bundles of clothing stood near the disposal orifice. Each was complete to the final garment, shoes, socks, underclothing. Thus

might two children have undressed to dive into a cool pool, swimming deep into forgetfulness.

For a long time he gazed down into the disposal orifice, leading to the ravening fury which heated and propelled the *Styria*. On each cheek a tear appeared, running slowly down his smooth skin. He had not known it was this bad, he thought. But he had done all he could.

He met Helen as he left the room. She was standing in the corridor, hair disordered, lips shaking, tears on her cheeks.

"There—there aren't any more children in the ship, Helen," he said.

She gazed at him; round eyes agonised. "I didn't know they were so unhappy, Douglas. If I had, I could have done something."

He nodded. "Nor did I know, Helen." For a moment he listened to the silence. "According to the log, they're not the first to take that way out—not by many."

She was not listening. "I didn't realise they were so unhappy!" The voice was a wail. "They're the last two, and they're gone! We could have done something to make them happier. We could have made more sweets." Words began to run together, as if some co-ordinating power had been lost. "We made the best sweets we could. We did all we could. We helped them. I didn't know, and it's too late—too late—"

Douglas reached forward, lifted her blouse, opened the panel, and turned the master switch off. Light faded from the gentle eyes, the limbs slowly folded.

Yet she was right, Douglas thought. No more children at all, now Tony and Suzy were gone. It had been the duty of Helen and himself to help and serve the children. He had not understood that all the care and attention which would be sufficient for a hundred had been too overpowering, when directed upon two alone. All he knew was that his purpose had ceased to exist. Designed to care for children, to learn to help them, to exist for them, he now had no reason to exist. After long, silent minutes he lifted his shirt, opened the flap, and turned the master switch off. Oblivion was instantaneous, cutting across his circuits, leaving a blank where reason had been.

The *Styria* sped on, a silver mote amid the stars, her sensitive equipment now homing on the planet circling Antaria. Within months she would go into orbit, losing velocity, spiralling lower until auto-pilot

mechanisms could choose a landing site and set the ship down. Already long-range visual analysis showed that atmosphere, gravity and living conditions were as revealed by the Effermann Test, and ideal for humans.

In the compact library two silent figures lay together under the dim lights, eyes closed as if in sleep. The simulated tears had evaporated from the synthetic cheeks, and the mechanical limbs had folded automatically into a position imitating rest.

The door opened slowly, creaking, and a disordered mop of hair came through. The naked body following was covered with green slime.

After a few minutes Tony rose, drawing Suzy into the room. Naked, the green on her body testified to the enthusiasm with which she had burrowed into the vegetation of the forest.

"They—they weren't real people," she whispered.

Tony shook his head. "No, Suzy. Only made to help us. Now, we'll have to help ourselves. When I fought with Douglas years ago I thought his arms seemed funny, and he didn't howl when I bit, like you do. You know, now, why they made such rotten sweets. They couldn't taste them." He stood more erect, outlined in the glow from the corridor. Already a new self-reliance was coming into his voice.

"It's just us, now, Suzy. *On our own.*"

She looked up at him. "I was sick of having them tell me what to do! Now we're alone it'll be fun, Tony!"

He nodded, but there was wisdom on his face. "More than just fun, Suzy. There'll be hard times, failures, work until we drop, but we'll succeed!"

They turned their backs on the silent figures and went out through the door. A man must be able to decide his own destiny, Tony thought.

PITTSBURGH WORLD SCIENCE FICTION CONVENTION

The Pittcon's Committee's plans for this Fall's 18th World Science Fiction Convention to be held at the Penn-Sheraton in Pittsburgh over Labor Day Weekend are increasingly interesting.

Dirce S. Archer, Chairman of the Convention Committee, writes that they will have the entire 17th floor for con activities, "and the PS is not a small hotel".

James Blish, winner of the 1959 "Hugo" award for his novel, the superb *A CASE OF CONSCIENCE*, will be Guest of Honor. Isaac Asimov, Sam Moskowitz and many others will be on the program.

Send in your membership *tonight*—\$2.00 in this country, \$1.00 if overseas—to PITTCON, c/o Dirce S. Archer, 1453 Barnsdale Street, Pittsburgh 17, Pa. Make your checks payable to P. Schuyler Miller, Treasurer, or 18th World Science Fiction Convention Committee.

H.S.S.

HIGH ROAD

by JAMES WHITE

A harsh, angry voice was saying "... Eight ... Seven ... Six ..." as if each numeral was a dirty word. Stevenson could see the Range Firing Officer at his panel rubbing sweating palms against his trouser legs. In the other control positions men smoked—or rather, chewed at—cigarettes, and some of them fingered grisly little things which contrasted oddly indeed with the clean, scientific outlines of the equipment around them.

Stevenson would have preferred to stay away from the blockhouse during a firing these days: the atmosphere was anything but pleasant. But as the establishment's chief security officer it was his duty to be present and keep an eye on things. One day, perhaps, he would see something which would explain sixteen failures in a row, something other than carelessness or technical incompetence on the part of the men.

The countdown marched inexorably into the last second and the towering three-stager out on the take-off apron screamed thunderously and spewed white fire. The flare was so blinding that it made the cold, clear blue of the hour-after-dawn sky seem suddenly dark. Stevenson watched

the rocket creep slowly skywards, clear the service gantry and, gaining both velocity and directional stability now with every second which passed, go on climbing.

Then the first microscopic wobble grew quickly into a wild, uncontrollable yawing which sent the ship snaking crazily all over the sky, and the all too familiar drama—or was farce a more accurate word?—came to its usual explosive finale as the Range Firing Officer destroyed it in flight while it was still over uninhabited country.

In the silence which followed Stevenson studied the expressions on the faces around him: Miss Johns inconspicuous in a corner; Hutchins at the tracking radar; Preston, white-faced and apparently in shock, with his finger still on the button which had just sent half a million pounds up in smoke, and the others. He saw anger and disappointment, and bitter despair hung like a heavy fog in the room. At the moment the psychological climate on the base was such that its top technical brains were fast becoming candidates for a psychiatric ward, yet he was sure that some of the people about him were deliberately assuming these expressions of hopelessness and self-disgust in order to conceal something else.

It was only a feeling, however. There was no proof.

Stevenson turned to the man at the camera beside him and said quietly, "Later I would like to see those pictures."

The cameraman grunted, slammed the protective cover over his instrument and angrily shouldered his way past Stevenson. "You people can hold a wake if you want to—me, I'm going to bed," he growled, and stamped out. The others trailed behind, leaving Stevenson alone with Preston and Miss Johns.

"George," said Miss Johns suddenly, "will you give me a lift?"

"A pleasure," he said politely. "But what about him?" He indicated Preston who was slumped in his chair staring at the patch of smoke he had made in the sky.

"Better leave him alone," she replied. "He wouldn't be nice company, even for himself."

Her tone was light but there had been real concern in her eyes when she had looked towards the Range Firing Officer. Those eyes, Stevenson thought, could hold all the wisdom, understanding and sympathy in the

world. The severity, calm and tenderness of all the mothers that ever were was in them, too,—just to complicate things—a strong dash of juvenile delinquent as well.

Not that there were many people who would appreciate or even notice Miss Johns' eyes—physically she was too unattractively packaged for that. Only someone like Stevenson would look into that shapeless, coarse-skinned exterior for deeper qualities. Despite her youth—Stevenson judged her to be in her mid- or early-twenties—this complete lack of good looks seemed not to bother her, but then as the psychologist attached to the Space Medicine section of the base she was, Stevenson thought, probably able to understand and adjust to her own problems.

Altogether Miss Johns was a pleasant, stimulating person and Stevenson still liked her, despite his growing suspicion that she was a traitor . . .

The chill, early morning air bit at their faces as he took the open car away from the blockhouse. Stevenson turned up his greatcoat collar, but chiefly because Miss Johns was sitting on his bad side, and said, "You saw those things the men were fiddling with back there. Can't you do anything about that?"

Miss Johns made a noncommittal sound.

"One of them looked familiar to me—maybe I've seen it in a geographical magazine or something," Stevenson went on. "It was a charm belonging to some kind of witch-doctor. Superstition doesn't bother me, within limits, but the men we saw must have gone to considerable trouble and expense to get those things. Isn't that carrying superstition a bit too far?"

Stevenson had meant to give the impression that he was treating the matter half as a joke, but the harshness of his own voice surprised him.

"I wouldn't worry about it if I were you," said Miss Johns reassuringly, her tone giving the lie to her eyes; they were saying that Stevenson had her worried plenty. "To men who have been dogged with so much misfortune as them it's only natural for their minds to turn to lucky charms and the like, and it follows that the more expensive or difficult to procure the luckpiece in question the more potent they will consider it to be. I admit it isn't a nice business, but it's harmless. After all, you can understand what drove them to it . . ."

Yes, Stevenson thought, but what he did not understand was why it had driven them so far . . .

A little over four years ago, at the time when the Russians had begun putting men in the probes which they were sending around the Moon, this rocket experimental station had been set up. Awake at last to the realisation that the race for space was on and that a runner-up would gain much more in international prestige than a non-starter, the leading technical men of the country plus vast sums of money had been poured into the establishment. The base had been geared to one major vehicle launching every three months, and it had been hoped that if they could not catch up with the Russians, at least they would be tramping close on the heels of their American colleagues.

The first firing had been a glorious failure, and every single one since an increasingly ignominious flop.

Vehicles which had blown themselves apart on the take-off apron, or a few feet above it, or had flung themselves up and then down as though tied to Earth with a monster elastic band. The technical side of the base had been reorganised many times; there had been threats, sackings and investigations—all sorts of pressure had been brought to bear, to no avail.

Such an incredible and persistent chain of misfortune had its effect on the technicians, of course. With each new mishap their feelings of personal guilt over the failures increased and the process became a vicious circle. Angry, frustrated and bitter they began to expect failures, and thus helped to produce more of them through sheer carelessness. But the recent, and to Stevenson quite unexpected development, had been that which he had been discussing with Miss Johns—the situation where practically all the top men on the station were fanatically convinced that Fate was against them. Many of them had become jumpy, superstition-ridden neurotics balanced on the thin edge of insanity.

Possibly it was the workings of his security officer's mind, but Stevenson was convinced that there was more than Fate against them. It struck him as odd that while the Russians were making great strides with their space travel programme the West was getting nowhere at all—the Americans were having more than a share of 'bad luck' too. So far as he was

concerned there could be only one explanation for that long series of failures. Sabotage.

But it had to be sabotage of the most ingenious and subtle kind, because as yet Stevenson had not a single, solid clue as to how it was being done or who was doing it—merely suspicions. One of these days the saboteur must slip, finesse too much perhaps, and Stevenson would get him. And when it had been demonstrated to the men it was not blind Fate that was against them but a smarter than average saboteur, they would stop being convinced of their own incompetence and really begin to do the work expected of them—and without benefit of charms or other superstitious haberdashery!

"Perhaps," said Miss Johns suddenly, "you are going to pull a Russian spy out of that nice blue cap of yours and cure all our ills, psychological and otherwise, in that way?"

There were times when Miss Johns gave him the uncomfortable feeling that she was reading his mind. Ignoring the question, Stevenson said, "I don't want to tell you your job, Miss Johns, but I think you should be doing more to kill this jinx idea, to restore the men's faith in themselves. Especially you should stop those meetings in the Dummy—"

"*You are telling me my job!*" she broke in, an angry edge to her voice. "I say there is no harm in what the men are doing—it is merely a temporary phase. But you have this bee in your bonnet about superstition . . ." She left the sentence hanging, then switched from defence to attack in mid-breath. "This seems to be a phobia with you, you're so down on it that that in itself is suspect. Maybe you should see me professionally sometime.

"But tell me, George, do you have dream trouble? Something bothering you from the war, perhaps?"

"I," said Stevenson, "sleep like a babe."

He lied, of course, and Miss Johns was probably observant enough to know it, but that did not concern him at the moment. Stevenson was thinking of the psychologist's manner and words. The sudden flash of anger had been completely unlike her and the things she had suggested were ridiculous. But in his suspicions regarding her were correct, this sort of approach could be expected . . .

They were both silent until he let her out at the quarters, then she

said, "I've never known you to be so quiet, George. Maybe you'll be in better humour after a good long sleep."

Stevenson shook his head ruefully and made himself smile. "There's a new man arriving today," he said, "and being new he's sure to arrive early, so I'd better go straight to the office. Maybe after I've ascertained the purity of his character and politics I'll be able to get that sleep, but I doubt it." He waved and said, "Be seeing you."

Once in his office Stevenson loosened shoes and belt, stretched his legs under the desk and settled himself for a nap. In common with the technicians concerned with this mornings' abortive launching he had not been to bed for thirty-six hours, his clerical staff would not come on duty for another two hours, and he was very tired.

But it was a long time before he could sleep. His mind kept throwing jerky, fragmented pictures against the blackness of his closed eyelids—pictures of men angry and despairing and abysmally disgusted with themselves, or pretending those emotions. Weariness gave them the fuzzy, confused aspect of delirium before he finally drifted into sleep.

He knew he was asleep because he was dreaming—the same sharp, vivid and unfinished dream which he had been dreaming more and more frequently of late, and which invariably woke him up sweating.

Fully awake again and with a headache which threatened to blow the top off his head, Stevenson wondered yet again why he dreamt about Dusseldorf when his every conscious urge for the last seventeen years had been to forget all about it. The charge *could* have been cowardice and desertion in the face of the enemy, but considering his flying record up to then the court of enquiry had been loath to put it into just those words. They had, however, wanted answers to several questions, "Why had his aircraft arrived back so early?" being one of the first. But Stevenson himself had not remembered that trip back very well—this was attributed to the pain from his severely wounded face—and the evidence of surviving crew members and others who had been over the target area was so contradictory that the unspoken charge had been dropped. Subsequently, however, he had flown nothing more exciting than a desk.

Stevenson grimaced and began rummaging in his drawer for the aspirin bottle which seemed to be constantly in use these days. Swallowing two tablets he settled back to wait for the headache to abate.

II

He was still waiting when Flight Lieutenant Holden was shown in an hour and a half later.

Holden was a tall, painfully thin individual with the unlikely combination of serious brown eyes, a wider-than-average mouth and ears which stuck out. He marched up to Stevenson's desk and his mouth opened to speak.

"If you call me 'Sir,'" said Stevenson conversationally, "I shall disembowel you with this letter-opener." He smiled then to show that he hadn't meant it—or at least only half-meant it—and added, "And slouch a bit, man, you're supposed to be a civilian!"

Holden slouched as instructed, then produced cigarettes and a lighter and hooked a leg over the corner of the desk.

"Don't overdo it," said Stevenson, still smiling. "Sit in that chair, smoke if you want to—in fact, give me one—and listen."

The research and technical sections of the establishment were staffed by civilians, Stevenson explained, with Security and some of the Medical and maintenance work under Air Force jurisdiction. Squadron-Leader Michaels, the doctor in charge of the Space Medicine section, was the only officer not engaged on security work of some kind or another. These men were so well known by everyone that they could perform little more than routine guard duties, and that was where Holden came in.

With his service experience on guided missiles Holden could pose as a civilian rocket expert, and once accepted could begin reporting on the various strange things which had been going on of late. On the surface these occurrences could be blamed on the incredibly low morale of the men caused by their long series of failures, but Stevenson did not believe this.

"You suspect sabotage, then," said Holden. "Is there anyone special you have in mind?"

Holden's voice was serious and quiet, matching his eyes rather than the comically protruding ears. Stevenson was about to reply when the shrill jangle of the phone interrupted him.

"That you, Wingco?" said a slow, deep voice immediately recognis-

able as belonging to Squadron-Leader Michaels. "We've a spot of trouble here—a man called Morrison. It looks as if he deliberately tried to blind himself." There was a short pause, then: "Ordinarily I would say that this was Miss Johns' pigeon, but you said to call you if—"

"You did quite right, Doc," said Stevenson quickly. "I'll be over directly—"

"No you won't," said the Doctor. "That man is in no fit state to be questioned and won't be for at least an hour—two would be better. You can see him then."

Michaels' tone brooked of no argument.

"I'll do as you suggest," Stevenson said, keeping the impatience he felt from showing in his voice. "But keep this affair to yourself for the time being—and especially, Doctor, don't let Miss Johns near that man until I get a crack at him."

Stevenson rose suddenly and put on his cap. He felt that physical movement was the only thing which could relieve the tension building up inside him. To Holden he said, "I'll show you around. Nearly everybody will be catching up on their sleep, so we'll be able to talk undisturbed."

The climbing sun had taken the chill out of the air and a faint breeze was blowing across the moor from the five miles distant sea. Stevenson said very little as he took Holden on a quick tour past the living quarters, engine test beds and the sprawling research and maintenance sections. At the building devoted to electronic guidance systems Stevenson climbed out and led Holden past a series of armed guards in RAF Regiment uniform and into a long, well-lit room containing six desks and two massive safes.

Closely followed by Holden he went from desk to desk opening and closing drawers and rummaging among the books and scratchpads lying on top of them. Suddenly he held up a folder containing five or six sheets of paper covered by mathematical formulae to which was clipped the photostat of a circuit diagram.

Slapping it back onto the desk, Stevenson said heavily, "This is marked 'Restricted' but could just as easily have been in any of the higher classified categories. Instead of being locked in one of the safes, as it should be after use, or even locked in a drawer, this was under the desk blotter."

Stevenson was grimly silent for a moment, trying to pick the proper words to describe a situation which bordered on the insane without giving the impression that he might be affected that way himself. It was very difficult.

"The job of a security officer on a base like this is usually pretty dull and uninteresting," he said finally, "and involves simply a constant checking of doors, windows and desk drawers, keeping track of classified papers or keys to see that they have not been deposited in a washroom somewhere or on top of a picture rail or under a mat instead of with the guard detail, and generally cleaning up after this bunch of lazy, careless or forgetful—or just plain stupid—geniuses we have here. The job also includes reminding them continually of these shortcomings, but in that it is a vain and thankless one which only earns us the reputation of being nagging old women.

"It goes without saying," Stevenson continued, "that all the necessary measures are taken to guard against the ordinary spy or would-be saboteur who might try to exploit these failings. But there is someone operating on this base who is, to put it mildly, extraordinary. He, she or them work tracelessly—there is not the slightest indication of how the jobs are done, much less who is doing them. And bear in mind that while a smart saboteur may remain hidden for a while, his methods of working—damage to fuel lines, placement of charges, or whatever—must eventually become plain. With this one we know nothing at all. I can't even prove that sabotage is taking place, it is just a feeling I have."

Holden said, "This Miss Johns I heard you mention on the phone, is she the one?"

They were back in the car again. Stevenson decided to make only one more stop before calling on Michaels in the Space Medicine building, even though a good deal less than the stipulated hour had passed.

"Yes and no," Stevenson replied after a moment. "I've kept such a strict watch on her that she could not possibly have committed a physical act of sabotage during the past eight months, yet three vehicles have blown up in that time. As I see it she has an important, but secondary, role . . ."

The sabotage was occurring at two levels, Stevenson went on to ex-

plain, and was so subtle and effective as to be almost self-perpetuating. The rockets had been wrecked by some means as yet unknown, but damage of another kind had been duplicated in the minds of the men working on them. Feelings of guilt and inadequacy over the first few failures had been skilfully played upon by an expert until the scientists and upper-level technicians on the base had become a bunch of shiny-eyed neurotics, or even worse. The wildest and most insane kinds of superstition were rife among them, they formed up into little cliques and secret societies with all sorts of crazy rituals and mumbo-jumbo, and generally behaved in the most childish and insane manner imaginable.

And with every week that passed the situation got worse.

When the engineers began wielding rabbit's feet in conjunction with their slide rules, Stevenson had been inclined to make allowances. But then he had seen how Miss Johns had encouraged them—and encourage them in a most subtle, back-handed manner by telling them not to in just the right words to ensure that they kept on at it. Miss Johns was a nice, sympathetic, ugly girl—and a first-rate psychologist. Those pudgy fingers knew exactly the right mental pushbutton required to gain any desired response.

"... And the damage being done here is really serious," Stevenson concluded grimly. "Not only are rockets being destroyed, the technical minds which make space flight possible are being wrecked, too. It is only a matter of time before the financial drain caused by these repeated failures brings all rocket experimentation to a full stop and keeps us out of space forever."

While he had been speaking Holden had watched him closely. His eyes had drifted from Stevenson's face, to the three broad rings on his sleeve, to the impressive double row of ribbons on his chest, and back to his face. Obviously he was weighing this scarred and well-gonged Wing-Commander with the no-nonsense look against the highly improbable tale he was being told, with a view to judging its accuracy.

"It sounds bad, sir," he said finally, then: "Where do I come in?"

"I want you," said Stevenson seriously, "to join a secret society—more than one if you can—with the ultimate aim of getting some good, solid evidence against Miss Johns instead of mere supposition. And you'll have to appear to be, not exactly off, you understand, but as if

with a little coaxing you could easily go that way . . .”

Holden's eyebrows had climbed half-way to his hairline, but he proved that he was not slow on the uptake by saying, “There was a type on my last station who used to think he could communicate with the Cosmic All. That sort of thing?”

“That's it exactly,” said Stevenson approvingly. “Just don't lay it on too thick. And remember, you and I are the only two people here who suspect Miss Johns of anything, so act accordingly.”

He saw Holden look at him sharply and wondered if he saw the beginnings of doubt in the other's eyes. Was the new security officer thinking, perhaps, that his chief had a bee in his bonnet and was chasing phantoms? Or was he simply ascribing such thoughts to Holden because in his weaker moments he had them about himself?

They rode in silence after that until Stevenson pulled up beside a tall, barn-like structure whose few windows were positioned at second floor level and above, and led the way in. There were no guards, yet inside, sweeping up from the dimness of the floor like a ghostly grey stalagmite until its slim nose-cone scraped the equally shadowy roof, there stood a three-stager of advanced design. There was a strong smell of paint.

“This building was used to work out the cruder problems of design and placement,” said Stevenson impatiently, indicating the conglomeration of half-assembled fuel tanks, structural members and plumbing littered around the floor. “And that thing which you are gawping at is the Dummy. It is a metal framework containing fuel tanks and very little else, used for testing stresses and strains before we went back to simpler designs. Some of the men have spent a lot of spare time on it—the hull, which is painted plywood, and the interior of the nose-cone particularly.”

Holden put one foot on the ladder which led up through the hollow shell at the point where engines should have been until it disappeared in the shadows. He laughed suddenly because the inside of one of the very life-like sections of plating had ‘Halloween Dance’ painted on it.

“It's been painted recently,” he said, sniffing. “And look how clean they keep the floor around here.”

Stevenson had noticed that also, and a nagging something in the back

of his mind kept insisting that the new paint and the well-swept circle of floor on which the Dummy stood *meant* something, something other than the obvious meaning he attributed to it as he spoke.

"They spend far too much time on this thing," he said shortly, "and in it. Pretending, playing spaceman when they should be using their brains working on the real thing. It's childish, criminal . . ."

When they were outside again Stevenson found that his headache had returned. On the way to see Michaels he was tempted to go for the aspirin bottle in the glove compartment, but decided against taking pills in front of Holden.

Squadron-Leader Michaels met them outside the infirmary on the second floor of the Space Medicine building. He said that the patient had settled down and talked quite a lot after learning that his blindness would not be permanent. The doctor had placed him under partial sedation despite this, because of the rugged time he had given them when first brought in.

"How did it happen?" said Stevenson.

Michaels looked uncomfortable. He said, "It's a peculiar business, this. Very. When he arrived he was confused and badly frightened about his eyes, and kept raving about the Sun . . ." The doctor broke off to interrupt himself with; "I was posted to India once and remember hearing of a fakir who blinded himself by staring at the sun for hours on end—some guff about blindness increasing the vision of the Inner Eye. Anyway, we couldn't make sense out of anything Morrison said until after we had him quietened down. Then he said that he had been staring into a sun-ray lamp without protective goggles—"

"We . . .?" said Stevenson.

"Miss Johns and I" said Michaels, then hurriedly as he saw the look on Stevenson's face, "she came in a few minutes after he did and went straight to him, while I was phoning you about it as a matter of fact. I couldn't very well chase her out—at least, not without a good reason, and you didn't give me any reason at all. Besides, she's a damned good psychologist—she had that man calm and talking rationally in no time at all. And she's a nice person, too . . ."

"It doesn't matter," said Stevenson shortly. But it *did* matter, because he knew that the replies he would have received before a visit by Miss Johns would be very different from those he would gain afterwards.

and it was answers in the former category which he needed. He added, "Is she with him now?"

"Yes, but . . ." Michaels coughed, then said firmly, "I'd like to say something, and I'm afraid it will sound like insubordination . . ."

Stevenson looked at him steadily for several seconds, then: "You've been insubordinate before without confessing to undue anxiety about it," he said drily, "but I can take a hint." He turned suddenly to Holden who was still hovering in the background and performed brief introductions, then said, "Holden, I wonder if you would leave us alone for a few minutes. Consider that I worded it a little more tactfully and git, like a good man . . ."

When he had gone Stevenson said, "Well?"

Michaels was a big man, with the ruddy features and great, ham-like hands of a farmer—except that any watchmaker would have delighted in the steadiness and sensitivity of those hands. He was the type who never beat around the bush but preferred to plough right through it, usually trampling it into the ground in the process. Bedside manners were something he knew only by hearsay, and Stevenson had the idea that what he was about to hear would be delivered straight from the shoulder and with considerable force.

"I'm not a psychologist myself," said Michaels slowly, "but I can throw the jargon around as loosely as the next man, and even understand what I'm talking about sometimes. I think you need straightening out, Wingco."

He was silent for a moment, then went on, "You're an odd man. Tough and strict, but in moderation. Psychologically the whole base is going to pot, and it would be worse if it wasn't for your constant *sameness*. You never have a hair out of place or a button undone, and you're so proper and dependable and so solidly *normal* that, even if they don't particularly like you, you shame them into behaving themselves. The entire personnel of the base could go completely round the bend without it affecting you, apparently—"

"One successful launching," said Stevenson, "will cure everything."

"Let's hope it cures *you*!"

"You'd better explain that," said Stevenson sharply.

"I said that the situation here did not seem to affect you," the doctor went on, "but it does. The way you have suddenly turned against Miss

Johns proves that. I work with her a lot so possibly I'm the only one aware of it, and I think you are being blind and stupid.

"Can you see the physical change in her recently—I'm certain she must be dieting—or the way she looks at you? She's a nice person, George, a real nice person, and when I came here at first I thought you two were becoming serious about each other—she is just what you need, George. But now because things are going wrong generally you're taking it out on her . . ."

"That's enough!" said Stevenson angrily. "And you're right, Doctor, in saying that you are not a psychologist. Now I think I'll go in and see this Morrison. Alone."

III

All the same, as he silently opened the door of the room where Morrison was being treated he felt very hot under the collar. He would never have suspected that anyone guessed his earlier feelings for the woman psychologist, much less that she returned them. Miss Johns was the sympathetic type; her extra attentions where he was concerned were simply because, with his chewed up face and necessarily emotionally barren life since getting it, she probably considered that he was in need of sympathy and understanding much more than any of the others.

Either that or, even in those early days, she was already preparing for this moment.

When Stevenson entered Miss Johns was reading in a low, soporific monotone to the man with bandaged eyes who was lying on the bed. Judging by the even breathing and relaxed state of the face visible below the dressings Morrison was asleep, but still she read on, occasionally darting a glance at the patient which was full of a tenderness so intense that she seemed almost to be sharing his pain. But she was like that with everybody, Stevenson knew; he thought how nice it would be if she could read to him like that, or take him in her arms and make him forget all the worries and compromises of his cold, lonely and frustrated existence. They might not be beautiful arms, but they were soft and comforting and she had so much sympathy to give which was not mere pity. He could be very happy with Miss Johns.

Then abruptly he checked himself. Looking at her coldly and dispassionately

sionately again, he thought, *Why you lousy, hypocritical . . . !*

There was a war on—a psychological war in which no holds were barred. Its effect on the morale and efficiency of the men in general had been bad despite everything that Stevenson could do, but now it was being concentrated on himself in particular and the method to be used against him was the dirtiest yet. Imagine trying to turn the Doc against him? And cunningly implanting the suggestion that she was carrying a torch for him by the most foolproof method—via a third party! She would know that Stevenson was particularly susceptible to that kind of approach, and she was really going to town on the process of softening him up. The ultimate aim, of course, being to render him as pliable and insane as the others.

Stevenson had no intention of using a sun-ray lamp on his eyes or committing any similar act of insanity, but he was beginning to get an idea . . .

Miss Johns got up immediately she saw him and came towards Stevenson with a finger to her lips. She said, "I think he's sleeping. Do you have to talk to him now, George?"

Two minutes ago Stevenson had fully intended to question Morrison to within an inch of his life, but now he replied, "I suppose it can wait."

For the barest instant he thought he saw an overwhelming relief in her eyes, then she sighed and said, "This is a bad business, I can't understand it."

Just a piece of harmless superstition, he said sardonically, but under his breath, then aloud: "Come outside where we can talk without waking him."

This sort of thing was not in his line at all, Stevenson knew he had the training and routine-indoctrinated mind of a good security Officer—which meant that he was little more than a glorified nightwatchman—and he was afraid that he lacked the mental and verbal sleight-of-hand for the job he was contemplating. He was no psychologist and he was pitting himself against one of the best—he was bound to goof at some stage in the proceedings and wreck everything. But it was the only positive action he could take against this double-level sabotage and he had to try it.

"I was thinking over what you said earlier, Miss Johns," he said when

they were outside again. He had, he hoped, just the right amount of hesitancy and self-consciousness in his voice. "And I'd like your advice on something. It's headaches, mostly, and recurrent dreams—one dream, actually, connected with something which happened during the war. And recently things have been getting me down . . ."

"I understand, George," she said reassuringly. "I'd be glad to help of course."

There was concern in her eyes, real concern. Perhaps the feelings she had towards people were real and honest to a certain extent—in fact, Stevenson was convinced that that must be so. And if such was the case, then the plan he was about to try could be given another and more deadly modification.

He had intended playing the part of a harassed and near-to-neurotic security officer, and pretend to go along with her suggestions when, as he knew she must, she began to make them. He could see exactly how she worked and at the same time find out how to negate the damage already inflicted on others. Providing his act was convincing enough, there was the possibility that she might make a slip which would not only prove her own connection with the sabotage, but give him the identity of the other saboteur.

Now, however, Stevenson was beginning to wonder if there was some truth in the Doc's assertion of a few minutes ago. He was tall, his hair was still dark and one half of his face could still be considered handsome—and while he wasn't much perhaps he was the most a girl like Miss Johns could hope for: after all, he had entertained such ideas towards her and she was not physically attractive. If all this was true and he pretended to return her affections, then the probability of her revealing something in an unguarded moment was increased many times.

He said, "I won't talk about it now, I'm practically walking in my sleep. Maybe tomorrow or the next day?"

"Surely," she said. "Any time."

Now that he was really looking for it he did notice a change in her. The blotchiness of her skin was less marked, and while she was still no siren her pudginess had decreased somewhat. Interesting.

"Thanks," Stevenson said. He smiled what he hoped was a shy smile, though with his face one never knew, and added hesitantly, "I, ah, don't

know what you've been doing to yourself recently, Miss Johns, but you keep getting more beautiful every day . . ."

For a moment he thought that she was going to faint. Her face went a dirty white colour and in her eyes as she looked at him was such utter terror that Stevenson could only stare foolishly at her with his mouth open. She mumbled something about another patient and fled.

Stevenson barely nodded to the doctor as he left and all the warmth had departed from his voice and manner when he gave Holden, who was still waiting outside, his final instructions. He had only pretended to make a pass at Miss Johns, so that while he might feel disappointment that his plan to play her at her own game had misfired, he should not feel so hurt and angry like this over her running away from him. But he did.

Apparently even plain and downright ugly women would have nothing to do with him.

His utter fatigue was again brought home to him when he banged into the back of the Base Director's car on returning to his office—Stevenson had been certain that he had braked in plenty of time. He fought to keep his eyes wide open and focussed and as he went inside tried to give the impression that he was wide awake, alert and altogether on top line. Probably he failed dismally.

The Flight-Sergeant in charge of the outer office jumped to his feet and said crisply, "Professor Martyn is inside, sir. He arrived a few minutes ago."

Stevenson nodded and went in, closing the door firmly behind him. He said, "What can I do for you, sir?"

Professor Martyn was the Chief Scientist, an extremely able and intelligent man who—perhaps because he was physically not very strong—was not very good at concealing his feelings. It was for that reason that he had not been present in the block-house during the last three launchings—his reactions to earlier failures, Stevenson remembered, had had a worse effect on the men's morale than the failures themselves. At the moment he was sitting with chin on chest, looking so completely dispirited that the large, grey eyes in his thin-boned face seemed at any moment they would melt into tears. The Professor was a weak man who felt things a little too strongly.

Martyn lifted his head. "Nothing," he replied, and sudden anger kept

his voice from breaking. "Not a blasted thing! I'm here to tell you that our spaceflight programme is called off. We're to pack up and go home.

"Not that I'm surprised," he went on furiously before Stevenson could interrupt. "There's been far too much money wasted here with rockets which just punch holes in the ground! And now the Russians have announced their latest achievement, a manned expedition to Mars—they intend landing on Deimos before returning. The expedition left secretly about ten months ago and now they're expecting news of the landing at any time."

"But that doesn't necessarily mean—"

"Yes it does!" Martyn broke in. "They're giving this expedition the treatment, and when the Russians blow their own trumpet they don't believe in fitting a mute. This latest effort makes us look stupid. Not only that, it has made our attempts at trying to keep up with them even stupider. So it's all off, cancelled, *phut!*"

So they've won after all, Stevenson thought sickly. He had not realised that time was running out so quickly. For some obscure reason he thought of the Dummy—they would probably sell it to a fairground—and his eyes drifted to the wall facing his desk. It held a large picture of a section of the Moon taken at a distance of sixty miles—a fuzzy, distorted picture which had been taken by the first Lunar probe. Inevitably, the picture was Russian.

Martyn was looking at the picture, too.

"Can't you hold off for a couple of weeks?" Stevenson pleaded, cursing the tiredness which clogged both mind and tongue. "Even a week? Our men aren't that stupid—there is another reason for the failures, and I've got a line on it—"

"I know, I know," said Martyn irritably. "You've told me a dozen times; sabotage. But you've no proof, no facts. Who do you suspect, and why? Above all, *how* . . . ?"

"I'd rather not say at the moment," said Stevenson, "but I'll have proof, all right, and soon. The way I see it there are two of them, one working in the open and one . . ."

"George," said Martyn gently, "I think you're chasing ghosts. There are no saboteurs, and even if you proved that there were I doubt that it would reverse the decision."

But Stevenson clung to the opinion that it would. When the Chief Scientist had gone he began telephoning furiously to all the departments which might conceivably contain Holden. He had to tell the new security officer that there was no longer time for gentle boring from within—he must act fast and blow the risks! And when Holden had been given his new instructions Stevenson would have to contact Martyn again and somehow keep him talking about the coming dissolution of the base.

To anyone . . .

IV

He was forced to leave the office early in the afternoon to avoid scandalising his staff by falling asleep on duty. His headache had grown steadily until it felt like a web of red-hot metal laid across his brain. Stevenson called up the Squadron-Leader to ask for something stronger than aspirin, but Michaels insisted on talking like the village match-maker and he hung up angrily without making the request. Shortly afterwards he fell unconscious into bed.

And dreamed . . .

Dusseldorf on a night early in 1943, a night with heavy flak, search-lights, enemy fighters and an atrociously bright moon. His Lancaster shuddered and lurched to the intensity of the barrage and below him the whole city seemed to be on fire. But obviously it wasn't all on fire because in his phones the absurdly drawing voice of a Pathfinder type in his all-black Mosquito was urging, "Hit the area between the red and yellow marker flares. Disregard the aircraft burning on the ground . . ." Close on his port side an aircraft had a near miss which set its star-board inner engine on fire. Before he could blink twice the tanks caught and the plane became a bright orange ball of fire which continued to fly straight and level for all of ten seconds before it gradually slid into a dive.

For the then Squadron-Leader Stevenson, finishing his fourth tour of duty, the pressure had been on too heavy and for far too long. The odd conviction—which he had never confessed to, because in those days he would have died rather than let anyone suspect there was anything wrong with his mind—had been growing in him that all these threats against his life could be shifted into some other system of reality, that

the flak and tracer and the planes of his colleagues' when they were forced to fly in formation without lights could harm him only if he allowed them to.

He was, therefore, neither more nor less frightened than usual as he took his aircraft into its bombing run. All the ack-ack defences of the city seemed to be concentrated over the target area. It was a blinding, thunderous curtain so thick that the very air seemed to be a bubbling, fiery porridge. And Stevenson knew that if he flew into that muck he would not live . . .

He awoke shivering and with a pounding headache. It was early morning and he had forgotten to close the windows, which explained the cold, and the phone was ringing. It was one of the guards. They had caught a saboteur. Preston.

"Take him to my office," Stevenson said curtly, fighting the urge to stutter with sheer excitement. "Don't let anyone see or speak to him until I get there. Especially Miss Johns.

As he jammed down the phone and began hauling on his clothes, Stevenson thought that the last few words were becoming a refrain with him.

So Preston was the other one.

But when Stevenson questioned the Range Firing Officer a few minutes later he drew a complete blank. It wasn't that Preston refused to answer questions, he could not. The only useful information came from the men who had brought him in.

Apparently Preston had not left the blockhouse since the last firing and had been found by a security patrol still sitting at his control desk. The chair he sat on was the only whole-piece of furniture or equipment in the room, which looked as if it had suffered a near miss by a block-buster. The red button used for destroying vehicles which had gone out of control, together with a three-inch section of its connecting rod, had been clenched tightly in one fist—it was still there, Stevenson could see. Preston had given the patrol no trouble and had done exactly as he had been told with the happy air of an obedient and not too brainy dog.

He still looked happy in a vacuous sort of way, except when Stevenson asked a question in a loud or angry voice, then he looked frightened.

"Take him away!" said Stevenson harshly. "No need to put him in the

guardroom, take him to Michaels at the infirmary . . .”

Poor Preston, he thought as he watched the man shamle out, both pitying and hating him because for a few glorious minutes he had allowed Stevenson to think that his troubles were over.

In a way he envied Preston, the man who had neatly sidestepped all his problems.

Steadily, inexorably, the pressure was building up again—just as it had done during the war, he thought—and it seemed an eminently sane and logical thing just to duck out. Certainly it was not sanity to go on battering one's head against a brick wall. He had not accomplished anything in the four years he had been here, and now the Director said that the base was to close down . . .

The clerical staff had come on duty in the outer office, and someone had turned on the radio. There was still no news of the Russian landing on Deimos, but it was expected hourly. For a moment Stevenson thought of that expedition, of the equipment they would set up on that hurtling, little moon of Mars and of the data they would bring back. Imagine knowing the physical composition of Deimos, not by juggling with high-powered math at the end of a spectroscope but because you had brought a piece of it back with you. A great wave of envy and despair rose in him and he clenched his teeth so hard that his jaws hurt. If only he could stand up there, and look at the shrunken Sun and Mars like a big red wall in the black sky—if some of the people from this base could do it, even that would satisfy him.

He had been hopelessly ineffectual as a security officer, Stevenson told himself as his mind returned to earth and present time; he was about ready to admit now that there were no saboteurs, that he had dreamed them up rather than admit that another nation could produce better men than his. His suspicions of Miss Johns must have grown from a subconscious hatred because their earlier friendship had not, as he had hoped, ripened into something warmer. The same hatred which he felt towards all women who either stared or pointedly did not stare at the right side of his face . . .

The sudden ringing of the phone jolted him out of the depths of despair to a small extent, then the fast, excited voice of Holden in the car-piece pulled him the rest of the way out with a rush.

"I haven't much time, sir," said Holden quickly, "someone might walk in on me. But I've found out plenty. You were dead right, there's sabotage—maybe as many as ten people involved with Miss Johns definitely behind it. I don't know how it is being done, just that Miss Johns seems to be solely responsible. But it's a crazy business; there is no indication that they are pro-Russian. They seem to believe that too much physical science is a bad thing and that all rockets attempts here must be stopped—I overheard them talking about a 'low road' which must remain closed to us. The whole thing strikes me as a sort of fanatical, crackpot cult—"

"Undoubtedly a front," said Stevenson, "But go on."

Quickly Holden described how he had hidden himself in the Dummy building the previous night, and how a very thorough search of the place by three men with flashlamps had driven him into a hiding place from which he could hear very little and see not at all. The three searchers had been joined by six or seven others and they had stood around talking and waiting for Miss Johns. Her name had been mentioned several times, in tones of great respect which made him think that they regarded her as a sort of high priestess or being apart, and they had also discussed the lovely way the previous day's launching had been sabotaged—the beautiful touch of allowing it to look as if this time they were going to be successful for all of ten seconds before cracking down, so as to wreck the maximum psychological damage with the incident.

There were a lot of quite innocent types who used the Dummy for flights of imagination and nothing else, Holden went on, but these people had a purpose which seemed to go beyond even sabotage. Next time he was going to listen from a spot inside the Dummy—he had gone through it after they had all left and found the perfect hiding place—when the next meeting took place. It was scheduled for this morning sometime . . .

"This morning . . . ?" said Stevenson.

"Yes," said Holden. "They think you are becoming too interested in what goes on in the Dummy at night and might raid the place with a detachment of security men, hence the switch to daytime meetings. They're afraid of you putting two and two together and connecting them with the Morrison accident—though what the connection is I haven't been

able to see, either.

"For some reason they regard Morrison as a hero," Holden said, then went on smoothly, "what you see in that Flight-Sergeant is beyond me. Take away the moustache and what have you got? Now take me . . ."

"Nice work, Holden," said Stevenson and hung up. It was obvious that Holden had been walked in upon, wherever he was.

He spent the next half hour pacing up and down his office wondering how he could assist Holden. His first impulse was to surround the Dummy building with men, but dismissed that idea for the piece of lunacy that it was. Holden alone could do everything that was necessary—he had already proved himself to be quick, intelligent and adaptable. But he could not help worrying. Supposing the hiding place was discovered. The interior of the Dummy was a rickety, flimsy structure of lightweight girders, ladders and three-ply—an accident could happen very easily, someone might fall and it would be hard to prove that it was not an accident.

If they did anything to Holden . . .

But there was something useful that he could do. Stevenson put on his cap, checked his appearance briefly in the glass and saw a tired but spic-and-span Wing-Commander, and reflected that the tiredness could not be helped. Then he left to find Professor Martyn.

It took him nearly three hours to track down the Chief Scientist and wrest the promise from him that he would make no public or private announcement about the closing of the base for at least three days. Stevenson called his office to see if there were any messages, but there were none so presumably Holden was still eavesdropping on the meeting in the Dummy. He had a late breakfast early dinner combination, then decided that there were some loose ends he could tie up while waiting on Holden's report. He could talk to Morrison, the man who said he had been blinded by a sun-ray lamp and who the saboteurs regarded as a hero . . .

The road from the cafeteria to the infirmary in the Space Medicine building ran past the structure which housed the Dummy, and Stevenson intended shooting past without even a sideways glance. But when he saw the body lying by the side of the road he jammed on the brakes.

It was Holden. He recognised the sports jacket even before he got

close enough to see the protruding ears. The face was unrecognisable. And as the implications of Holden's physical condition sank in, the fabric of reality around him cracked open and madness gibbered in at him.

Holden was still—just barely—alive. Stevenson half dragged him into the car, wondering wildly as he did so if the car was really a car and the road a road, or if they would all break up and dissolve if he didn't keep thinking about them. When an event occurs which is clearly, beyond all doubt, a product of madness—a nightmare hallucination so detailed that it could be seen, felt and lifted into a car—then connected events must also become suspect.

Had he merely imagined that last report of Holden's, for instance, because he wanted so badly to believe something like that? And how many other people and places and incidents was he imagining? The pressure was building up too far, he thought fanatically; it was time to duck, to fly around or to whatever he had done that other time.

You can't fly through that muck and live . . . !

He left Holden with Michaels and, ignoring the doctor's shocked, incredulous questions, went straight to Miss Johns' office. She wasn't in. Stevenson stood for a moment in the small, neat room fighting for control. Disregard the impossible, insane things, he told himself desperately; hold hard onto the original idea, the plan for playing Miss Johns at her own fiendishly subtle game. He wasn't equipped to fight this sort of psychological war, less so now that she had begun to use shock tactics, but he could try . . .

Quick footsteps came along the corridor and Miss Johns entered, a little breathlessly. She looked surprised to see him, also wary and a little afraid. But there was genuine concern in her voice when she said, "George, what's wrong? You don't look well."

"I'm not," said Stevenson thickly. "I was worried. About last night, you—"

Even to himself he sounded incoherent. If only the pain in his head would stop so that he could think. And he had to concentrate on the carpet and desk and bookshelves for fear that he would suddenly find himself looking into the nothingness of the non-existent atomic particles which made them up.

"George, I'm sorry!" she burst out, and hurried across to him. "When

I ran away you must have thought that I . . . that your face . . . But it wasn't that at all."

Miss Johns put both hands on his shoulders and pushed him gently into a chair. Hesitantly, she reached up to touch his cheek, the bad one.

"I'm a very . . . immature person," she said. "The very idea of war horrifies me, yet I can feel strongly for a man who has fought in one and bears the scars because by doing so he has proved that he is . . . Well, it's the romantic in me, I suppose. And I've been lonely on this job, more lonely than you could ever imagine, George. Your looks don't matter, please believe that."

She was actually pleading with him, Stevenson saw in amazement, and he *knew* that she meant every word of it. This was going to make his job a lot easier, he thought; it also made him feel a louse.

Miss Johns turned away suddenly and sat down at her desk. She said quietly, "this recurrent dream which is troubling you, would you like to talk about it?"

Stevenson told her about Dusseldorf, before and after but not during—the crucial ten minutes over the target area together with large periods of the return flight were a complete blank to him. And because Miss Johns was a top psychologist no matter what else she might be, and because he had been honestly troubled by that business for years, Stevenson waited anxiously for her reactions.

"Protective amnesia, obviously," said Miss Johns. "You had taken too much and just this once you ran away, for which nobody could really blame you. But you blamed yourself so much that you had to forget this moment of cowardice. However, I think that you would ultimately feel better if you did remember and face up to it.

"What were your feelings and impressions just before the blank period?"

"Headache, a peculiar, burning sort of headache," said Stevenson. "Just the same as those I've been having recently. And the idea that things around me were . . . were . . . I mean, that they weren't really real and could be changed, if necessary, so's not to hurt me." He sighed, then went on, "But it wasn't as simple as you think. We returned to base long before the others—which was the reason the enquiry was called in the first place—and the aircraft fell to pieces the moment it touched down and nobody heard us come in until that time. Yet we

were seen making the bombing run, so there was no way we could have come home early. Then my co-pilot said that I deserted my position during the ten minutes we were in the thickest flak, and turned up again when the aircraft was badly shot up and rapidly losing height. But nobody else saw me in the aircraft at that time and anyway, trying to run away inside a bomber at 15,000 feet strikes me as being too stupid an idea even for me . . ."

V

Stevenson had seen the sudden change in Miss John's expression when he had described his headaches, and saw it become more and more marked as he went on talking. He attributed it to the fact that the high and mighty chief security officer was displaying a major weakness which she was already considering methods to exploit. He disregarded the thing like a pencil torch which she took out of her desk, until all power and feeling left his legs and he had to grab the sides of the chair to avoid slipping to the floor.

"This gadget paralyses completely," said Miss Johns in a strained voice. "Its effect wears off in a few minutes, but if focussed in the heart area the effect is irreversible—at least to the facilities available here. I don't want to kill you, George, or even hurt you, but when you can stand up again you'll have to come with me."

Suddenly she swore. "To think of all the years of training and coaching and bringing along men, men who had to be started at the bottom, from scratch. And all the time *you* were right here . . . !"

She pressed her lips tightly together and thereafter kept them that way while Stevenson was in the office.

They left by a side entrance and walked towards the Dummy building.

Stevenson said, "There's no sense in pretending any longer. You are the saboteur—or one of them, I should say. Who's the other one and . . . and how the blazes does he do it?"

Miss Johns could not have been very experienced at this sort of thing, he thought; she was walking so close to him that he could have disarmed her any time he chose. But he wanted to find out all he could now in case she could not be made to talk later.

"Before I answer that," she said, "tell me one thing. Do you hate Russians?"

"That's a hard question," said Stevenson. "Let's say I admire them for their achievements—especially in spaceflight—but do not like them for the way they're hamstringing us here when they're already so far ahead of us."

"That's the answer I expected," said Miss Johns, looking greatly relieved, "And I can assure you that the Russians are not the people responsible for your troubles." She pointed to the ground a few yards ahead of them and a handful of gravel lifted itself into the air. Keeping pace with them as they walked it opened out into a cloud of individual pieces which went into a whirling complicated dance like a swarm of midges then dropped back to the path again. She went on, "There are many delicate mechanisms in a rocket which can be moved at a distance like that, before, during or after a take-off. So I alone am responsible for the sabotage, though there were many people who knew I was doing it, and why."

Stevenson's capacity for being surprised or shocked had been overloaded. He walked on dully, trying desperately to put the possible and impossible into some sort of order in a brain that was one throbbing ache. The only faint reassurance he had was the hope that if things like this could happen then maybe there was an explanation for Holden.

He must have been thinking out loud because Miss Johns said, "I'm sorry about Holden. If he hadn't been so well hidden it would never have happened. But he managed to kick out a panel before losing consciousness and we saw him and brought him back. We had no transport ourselves and when one of the men, a limited Pre-cog, sensed a car coming in a few minutes we put him beside the road knowing that that way he would have medical attention quickly.

"I spoke to Squadron-Leader Michaels before seeing you," she continued, "and he said that Holden would be all right. The damage to his lungs was negligible and you saw how tightly his eyes were closed, a reflex action which undoubtedly saved his sight—though there was still a considerable boil-off from his tear ducts. And the swelling and blistering of the skin looks much worse than what it really is. You know, provided one acts quickly enough, explosive decompression isn't nearly so

fatal as some people believe.

"And now inside," she added. "You first."

Stevenson became aware that they were entering the Dummy building. He had not disarmed Miss Johns and now it was too late to try.

There were eight or nine men inside, all of whom he recognised as being important people in the technical end: Hutchings, MacKellar, Roberts and others. Roberts was pale and scared looking and was clutching a floor-brush, but the others gathered round excitedly, throwing incomprehensible questions at each other, Miss Johns and himself—some one even tried to shake his hand! Then he heard Miss Johns detailing three men to go into the Dummy, and telling the whitefaced Roberts that he need not bother sweeping the floor because after today it wouldn't matter, and then she was pointing to the open end of the steel and hard-board rocket and saying, "After you . . ."

They climbed to the Dummy's control room, in silence except for the soft, tuneless singing of MacKellar. "You tak' the Low Road an' I'll tak' the High Road," he gave out a little breathlessly as he climbed, "An' I'll be in Scotland before you . . ." It was obvious that the words had significance. Inside the control room Hutchings handed him a high altitude suit. When Stevenson just stood looking at it they took it away from him again and began putting him into it. After that they left him alone while they put on their own suits and he had a chance to look around.

There was a dummy control board with one side pushed out—where Holden had hidden himself to eavesdrop on a crackpot secret society—and pieces of netting stapled loosely to walls and ceiling. One wall also held a calendar with a girl on it—her attractions were such that nobody had noticed that the calendar was two years old. Nailed to the floor were five chairs which had straps for waist and ankles attached to them. They were ordinary wickerwork chairs a bit gone in places rather than padded acceleration couches, Miss Johns explained when she saw him looking at them, because there would be no acceleration.

"I and a few others like me are doing everything possible to check any further technological development by the nations of what you think of as the West," she went on. "Your whole culture is headed into a scientific dead end, where everything is classified and tucked into tiny.

rigid compartments and there is only this one unalterable reality. Physical science has an important part to play in your advancement, but it is only a part. It requires similar advances in the purely mental sciences—especially of the type which some of you are already calling psionics—if you are to go to the Stars, or into Time or explore the countless probability worlds within reach of this continuum.

“That’s why we are not hindering the Russians, who are doing very well in the physical sciences, and curbing you in every way possible. Your thinking and energies must be forced into new and different channels, and then the two methods must be merged . . .”

Her tone had been that of a nurse lecturing a backward patient, both loving and severe, but suddenly she sighed and looked appealingly at Stevenson, “I have a plan which will accomplish all these things, and quickly, but . . .” She broke off and her tone hardened again as she gave orders to close the suit face-plates, and thereafter it was a toneless, metallic sound coming through the radio which had been fitted to each suit.

“. . . News of the Russian landing on Deimos came through about fifteen minutes ago,” she said. “It wasn’t altogether good. There was technical trouble . . . apparently they’re stuck there without enough fuel to get back. What we have to do is rescue them and make the incident—especially the method used—as public as possible. This will have the effect of shaking a lot of physical scientists loose from their needlessly limited concepts, on both sides of the Iron Curtain, and bring about first the branching off and ultimately the merging which is also necessary.

“I’m taking a great risk cutting corners like this,” she continued quickly, “but I’ve been on this job far too long, and certain physical changes are beginning which would soon make it obvious that I was not of this planet.

“Oh, well, here we go . . .”

Air whooshed briefly through the unglazed portholes and cracks in the plywood hull, and all weight was suddenly gone. Below them stretched a blinding expanse of white that was mottled here and there by hazy blue and green and brown. Stevenson had seen the Russian photographs; it was the Earth from one thousand miles out.

Stevenson's mind was too stunned to think about why or how he had got here; his only coherent thought was the wish that the port was bigger so that he could see more of the most glorious sight he had ever seen.

"... I'm no good yet at moving big stuff," Miss Jones was saying, "and this will leave my brain useless for anything but thinking with for a week. Roberts and Morrison were specialising in this sort of thing and were coming along nicely. But the Holden accident unsettled Roberts badly and on the last training jump around the Moon Morrison was blinded by a dose of unshielded sunlight—the gyro system had broken down and he was outside rotating the ship with a compressed air jet, so that the sun wouldn't blister the paint and cause a certain security officer to ask awkward questions.

"But we're not worried about the paint now, or you," she ended quietly. "She's all yours, George."

Stevenson looked at her blankly.

"Come now," she said impatiently. "You know what is possible, so should no longer be afraid of what seemed impossible. This trip should be easier than the last one, because space is empty and an inch of nothing and forty million miles of nothing are exactly equal. Or fifty light-years of nothing. *Think* man! What did you do during the ten minutes you were away from the aircraft over Dusseldorf?"

Stevenson heard himself stammering out the story of what he had done, the story which he had steadfastly refused to remember not, as he had thought originally because it was shameful, but because it was insane.

"So at the height of that raid you craved the peace and security of your childhood," said Miss Johns sternly. "You found yourself in your own back garden on a summer afternoon watching a little boy playing. Did you return again to the aircraft before the little boy, yourself, could turn around and be frightened by your bleeding face, or because you felt that you had deserted your crew, or both? But it doesn't matter—you returned and brought home an aircraft that couldn't possibly fly, fast enough for an enquiry to be called over the incident but not so quickly that you wrecked the sanity of yourself and your crew.

"You're a very talented man, George. Time travel *and* teleportation. The abilities are latent in most people but require training to be brought

out. You developed them independently, under pressure.

"But we're wasting time, George. Take us to Deimos."

Startled, Stevenson protested, "I can't do *that*! I mean, I believe now that I must have done it before, but I forget how. And now that you've explained everything, the pressure is off. You said yourself that I needed—"

"Is it?" said Miss Johns quietly. "You're forgetting what I said about using all my psi energy to get us up here, and that this isn't a self-powered vehicle which has been put into orbit.

"We're falling, and at thirty-two feet per second there isn't much time."

He saw the faces of Hutchings, MacKellar and the other man whose name he hadn't remembered yet all staring at him. Obviously this was as much a surprise to them as to himself, their frightened expressions proved that. But while Miss Johns' face was pale she was not nearly so frightened.

She was expecting him to produce . . .

Because he was their sole means of transport home Miss Johns forbade him to go outside the ship on Deimos, nor did she leave it herself. While Hutchings and the others visited with the Russians in their air-tight but fuel-less ship and tried to explain things with the inadequate vocabulary at their disposal, Stevenson and his saboteur talked.

The outbreak of superstition at the base had been engineered by Miss Johns, not because it was important in itself but because it helped the breakaway from too-logical patterns of thought. She had been given the assignment because males on her world were noticeably different from Human males, and adult females were so strikingly beautiful by Earth standards that it would have been impossible for them to operate at all. Her people were probably more intelligent than the Humans, but no less impressionable—such an agent was bound to be sought after by some Earthman whose feelings she would eventually return. It had happened to her, and she was anything but beautiful! That was why people like herself were given these assignments.

"I see," said Stevenson sympathetically. "Even ugly people have their uses sometimes. Uh, maybe us ugly ducklings should stick together . . . ?"

He saw her start to say something then break off in confusion. Her face was very red and she would not meet his eyes. Stevenson found the old suspicion coming back and with it the old hurt. She seemed to be fond of him, *but . . .* ! "Why did you run away from me last night?" he asked sharply.

"Because you said I was getting more beautiful every day," said Miss Johns, shyness and asperity mixing equally in her tone, "and nearly scared me to death! We take a long time to reach maturity, but when we do it happens fast and it's due to happen to me any time. I'm not an ugly duckling—what ails me is our equivalent of freckles and puppy-fat." She lowered her eyes again and ended, "If we could wait a while you'd find me a real nice duck."

He was happily trying to find a suitable reply to that when the six figures, three in suits of unfamiliar design, came half-swimming, half-climbing over the hundred yards distant horizon of Deimos, and Hutchings' voice came through their phones:

"George, for Pete's sake get us home quick. The inside of that ship was interesting enough, but dammit they've been cooped up in there for eight months! Man, the *stink*! I think if you offer them a bath when we get home they'd tell you every secret in the Kremlin . . ."

NUCLEAR RESEARCH IN CHINA

The fact that the Chinese Minister of War has reiterated China's determination and ability to manufacture nuclear weapons is held to imply considerable nuclear knowledge, and, to quote one Western comment, "access to a substantial nuclear energy industry". A heavy water research and materials testing reactor supplied by Russia under a 1955 agreement has been in operation for more than a year.

LITTLE GREEN MEN

By John Nicholson

There is a tendency, in UFO-minded circles (*if some of you will forgive the expression*) to ignore the fact that *two* distinct types of contacts with extraterrestrials have been reported—contacts with tall, golden-haired and wise “Teachers,” and contacts with little green men, sometimes extremely aggressive, described as anywheres from two and a half to four feet in height.

It is so much simpler to dismiss many of these stories as hoaxes, inspired by Frank Scully’s famous report in 1949 of crashed discs and three-foot occupants, but this is a dangerously easy way to dismiss the possibility that some of these UFOs which are rude enough to keep popping up all over the place *are* machines piloted, for one or another practical reason, by unusually small humanoids. We can, of course, as the editor of this magazine once pointed out in a speech, shut our eyes and insist that the things don’t really exist, but when we open our eyes, once more, the blasted things have refused to cooperate and are still there! In other words, while many sightings and contacts are perhaps hoaxes or hallucinations, there is a mounting and impressive body of evidence which cannot be ignored, evidence which leads the objective

observer to believe that to dismiss the field as the latest of the mirages exciting a credulous public is not only unjustified—but also dangerous.

Let's take the "Steep Rock Episode," the description of which was first published in *Steep Rock Echo* for September-October, 1950. About dusk, on July 2, 1950, a couple who had been fishing in Steep Rock Lake, Ontario, saw a flying saucer land on the water. Ten occupants of this UFO, each apparently about three and a half feet tall, came out and walked on top of the saucer, their movements like automata rather than living beings (so the report has it), apparently taking on water through a hose.

Take the Marble Creek sightings in California. On May 20th, and again on June 20th, 1953, two miners, John Q. Black and John Van Allen, reported seeing a strange silver object composed of two large discs of metal twelve feet wide and about seven thick, which landed on a sand bar at the junction of the Jordon and Marble Creeks in Butte County, California. The two men were a hundred feet away and watched as a "being," who looked like a broad-shouldered man about four feet tall, descended by a rope ladder. The "being" filled what looked like a bucket with water and handed it to something (or somebody) inside the UFO which took off as soon as they were aware of the two men's presence. Black later reported that he had found two campfires near the sand bar "around which were five-inch footprints." The failure of the UFO to return on July 20th caused Black to be branded as a hoaxer.

Some years earlier, on August 19, 1949, two Death Valley, California, prospectors had reported seeing a disc crash-land and two little men jump out. The men chased the beings but lost them in the dunes; when they got back, the disc had disappeared.

Way back in May of 1909, in the Caerphilly Mountains, in Wales, a man named Lithbridge saw a large "tube-shaped" object sitting on the grass beside the road. In it were two men wearing "heavy fur overcoats." When they saw Mr. Lithbridge, they spoke excitedly in a foreign language, and sailed away. Newspapermen visiting the place found trampled grass and a scattering of debris.

In Venezuela, in November of 1954, there were a series of incidents involving aggressive beings, furry or hairy, three to four feet tall, with long arms and claw-like hands, enlarged heads with a pair of enormous eyes, and wearing what appeared to be something similar

to a loin cloth. These beings would attack anyone stumbling upon them, the victims being hospitalized with lacerations and suffering from shock. In one case a meat delivery truck on its way to a sausage factory, found the way blocked by a luminous sphere, ten feet in diameter, hovering a few feet above the street. As the two men in the truck jumped out they found a man the size of a dwarf coming at them, a dwarf strong enough to knock one of them a distance of fifteen feet. Two other little men joined in the fray. Gonzales, one of the truckmen, pulled a knife on the approaching glowing-eyed dwarf. To his surprise, the blade slid off as if he was striking metal. Minutes later the sphere shot off, the little men inside.

By way of contrast there is the little green man who approached the home of a man in Everittstown, New Jersey. A luminous egg-shaped object, nine to twelve feet long, was hovering a few feet off the ground, in front of the barn, while the little man approached the house.

The little man is described as two and a half to three feet high, dressed in a green suit with shiny buttons, with a green hat like a tam and gloves with a shiny object at the tip of each glove. He had a putty-colored face, a nose and a chin, and large protuberant frog-like eyes. In a voice that seemed "sharp and scary" to the frightened man facing him, he apparently said, "We are peaceful people. We don't want no trouble. We just want your dog." (There is an interesting pattern, there, of the frequent interest of these little men in dogs.) The reply was a frightened and angry, "Get the hell out of here!", and "get" they did. . . .

Here, then, is a different and far less publicized aspect of the contact picture. In the above, and many other incidents, strange little men, varying from the grotesque to the "pretty," have had brief and generally abrupt contacts with our citizenry. These are no glamorous, soulful, golden-haired people, preaching the rather curious contactee gospel reported by some. These are strange and often "alien" beings, apparently frightening in their very difference, rejected ("Get the hell out of here!") and perhaps even described exaggeratedly by witnesses whose instinctive revulsion affected their reactions.

Who *are* these little men?

We still don't know, but it seems obvious that these little men—these "little green men"—do exist. . . .

Bass Fishermen will Say I'm Crazy ... until they try my method!



But, after an honest trial, if you're at all like the other men to whom I've told my strange plan, you'll guard it with your last breath.

Don't jump at conclusions. I'm not a manufacturer of any fancy new lure. I have no reels or lines to sell. I'm a professional man and make a good living in my profession. But my all-absorbing hobby is fishing. And, quite by accident, I've discovered how to go to waters that most fishermen say are fished out and come in with a good catch of the biggest bass that you ever saw. The savage old bass that got so big, because they were "wise" to every ordinary way of fishing.

This METHOD is NOT spinning, trolling, casting, fly fishing, trot line fishing, set line fishing, hand line fishing, live bait fishing, jugging, netting, trapping, or seining. No live bait or prepared bait is used. You can carry all of the equipment you need in one hand.

The whole method can be learned in twenty minutes — twenty minutes of fascinating reading. All the extra equipment you need, you can buy locally at a cost of less than a dollar. Yet with it, you can come in after an hour or two of the greatest excitement of your life, with a stringer full. Not one or two miserable 12 or 14 inch over-sized keepers — but five or six real beauties with real poundage behind them. The kind that don't need a word of explanation of the professional skill of the man who caught them. Absolutely legal, too — in every state.

This amazing method was developed by a little group of professional fishermen. Though they were public guides, they

rarely divulged their method to their patrons. They used it only when fishing for their own tables. It is possible that no man on your waters has ever **seen it**, ever **heard of it**, or ever **used it**. And when you have given it the first trial, you will be as closed-mouthed as a man who has suddenly discovered a gold mine. Because with this method you can fish within a hundred feet of the best fishermen in the country and pull in ferocious big ones while they come home empty handed. No special skill is required. The method is just as deadly in the hands of a novice as in the hands of an old timer. My method will be disclosed only to those men in each area who will give me their word of honor not to give the method to anyone else.

Send me your name. Let me tell you how you can try out this deadly method of bringing in big bass from your local waters. Let me tell you why I let you try out my unusual method for the whole fishing season without risking a penny of your money. Send your name for details of my money-back trial offer. There is no charge for this information, now or at any other time. Just your name is all I need. But I guarantee that the information I send you will make you a complete skeptic — until you decide to try my method! And then, your own catches will fill you with disbelief. Send your name, today. This will be fun.

ERIC A. FARE, Highland Park 33, Ill.

ERIC A. FARE, Highland Park 33, Illinois

Dear Mr. Fare: Send me complete information without any charge and without the slightest obligation. Tell me how I can learn your method of catching big bass from waters many say are "fished out," even when the old timers are reporting "No Luck."

Name.....

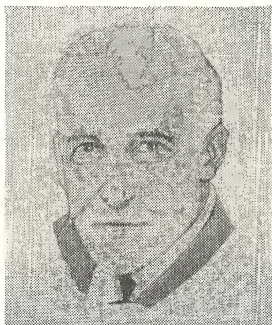
Address.....

City.....Zone.....State.....

Do You Make These Mistakes in English?

Sherwin Cody's remarkable invention has enabled more than 150,000 people to correct their mistakes in English. Only 15 minutes a day required to improve your speech and writing.

MANY persons say, "Did you hear from him today?" They should say, "Have you heard from him today?" Some spell "calendar," "calender" or "calander." Still others say "between you and I" instead of "between you and me." It is astonishing how often "who" is used for "whom," and how frequently the simplest words are mispronounced. Few know whether to spell certain words with one or two "c's" or "m's" or "r's," or with "ie" or "ei." Most persons use only common words — colorless, flat, ordinary, their speech and their letters are lifeless, monotonous, humdrum. Every time they talk or write they show themselves lacking the essential points of English.



SHERWIN CODY

Wonderful New Invention

For many years Mr. Cody studied the problem of creating instinctive habits of using good English. After countless experiments, he finally invented a simple method by which you can acquire a better command of the English language in only 15 minutes a day. Now you can stop making the mistakes which have been hurting you. Students of Mr. Cody's method have secured more improvement in five weeks than previously had been obtained by similar pupils in two years!

Learn by Habit—Not by Rules

Under old methods, rules are memorized, but correct habits are not formed. Finally the rules themselves are forgotten. The new Sherwin Cody method provides for the formation of correct habits by calling to your attention constantly only the *mistakes you yourself make.*

Only 15 Minutes a Day

Nor is there very much to learn. In Mr. Cody's years of experimenting he brought to light some highly astonishing facts about English.

Similarly, Mr. Cody proved that there were no more than one dozen fundamental principles of punctuation. If we mastered these principles there would be no bugbear of punctuation to handicap us in our writing.

Finally, he discovered that twenty-five typical errors in grammar constitute nine-tenths of our everyday mistakes. When one has learned to avoid these twenty-five pitfalls, how readily one can obtain that facility of speech denoting a person of breeding and education!

When the study of English is made so simple it becomes clear that progress can be made in a very short time. *No more than fifteen minutes a day is required.* Fifteen minutes, not of study, but of fascinating practice! Students of Mr. Cody's method do their work in any spare moment they can snatch. They do it riding to work, or at home. They take fifteen minutes from time usually spent in profitless reading or amusement. The results really are phenomenal.

FREE — Book on English

A book explaining Mr. Cody's remarkable method is yours for the asking. If you are ever embarrassed by mistakes in grammar, spelling, punctuation, pronunciation, or if you cannot instantly command the exact words with which to express your ideas, this free book, "How You Can Master Good English" — in 15 Minutes a Day, will prove a revelation to you. Send the coupon or a letter or postal card for it now. No agent will call. SHERWIN CODY COURSE IN ENGLISH, 1224 Central Drive, Port Washington, N. Y.

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For instance, statistics show that a list of sixty-nine words (with their repetitions) make up *more than half of all our speech and letter writing.*

Obviously, if one could learn to spell, use, and pronounce these words correctly, one would go far toward eliminating incorrect spelling and pronunciation.